

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 001-34501

**JUNIPER NETWORKS, INC.**

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

77-0422528

(I.R.S. Employer Identification No.)

1133 Innovation Way

Sunnyvale, California

(Address of principal executive offices)

94089

(Zip code)

(408) 745-2000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common Stock, par value \$0.00001 per share

New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filings requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of voting common stock held by non-affiliates of the registrant was approximately \$9,483,000,000 as of June 29, 2018, the last business day of the registrant's most recently completed second fiscal quarter (based on the closing sales price for the common stock on the New York Stock Exchange on such date).

As of February 15, 2019, there were 347,922,460 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

As noted herein, the information called for by Part III is incorporated by reference to specified portions of the registrant's definitive proxy statement to be filed in conjunction with the registrant's 2019 Annual Meeting of Stockholders, which is expected to be filed not later than 120 days after the registrant's fiscal year ended December 31, 2018.

**Juniper Networks, Inc.**  
**Form 10-K**

**Table of Contents**

	<b>Page</b>
<b><u>PART I</u></b>	
<a href="#"><u>ITEM 1.</u></a>	<a href="#"><u>Business</u></a> <span style="float:right">3</span>
<a href="#"><u>ITEM 1A.</u></a>	<a href="#"><u>Risk Factors</u></a> <span style="float:right">16</span>
<a href="#"><u>ITEM 1B.</u></a>	<a href="#"><u>Unresolved Staff Comments</u></a> <span style="float:right">36</span>
<a href="#"><u>ITEM 2.</u></a>	<a href="#"><u>Properties</u></a> <span style="float:right">36</span>
<a href="#"><u>ITEM 3.</u></a>	<a href="#"><u>Legal Proceedings</u></a> <span style="float:right">36</span>
<a href="#"><u>ITEM 4.</u></a>	<a href="#"><u>Mine Safety Disclosures</u></a> <span style="float:right">36</span>
<b><u>PART II</u></b>	
<a href="#"><u>ITEM 5.</u></a>	<a href="#"><u>Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u></a> <span style="float:right">37</span>
<a href="#"><u>ITEM 6.</u></a>	<a href="#"><u>Selected Financial Data</u></a> <span style="float:right">39</span>
<a href="#"><u>ITEM 7.</u></a>	<a href="#"><u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u></a> <span style="float:right">41</span>
<a href="#"><u>ITEM 7A.</u></a>	<a href="#"><u>Quantitative and Qualitative Disclosures About Market Risk</u></a> <span style="float:right">59</span>
<a href="#"><u>ITEM 8.</u></a>	<a href="#"><u>Financial Statements and Supplementary Data</u></a> <span style="float:right">61</span>
<a href="#"><u>ITEM 9.</u></a>	<a href="#"><u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u></a> <span style="float:right">112</span>
<a href="#"><u>ITEM 9A.</u></a>	<a href="#"><u>Controls and Procedures</u></a> <span style="float:right">112</span>
<a href="#"><u>ITEM 9B.</u></a>	<a href="#"><u>Other Information</u></a> <span style="float:right">112</span>
<b><u>PART III</u></b>	
<a href="#"><u>ITEM 10.</u></a>	<a href="#"><u>Directors, Executive Officers and Corporate Governance</u></a> <span style="float:right">113</span>
<a href="#"><u>ITEM 11.</u></a>	<a href="#"><u>Executive Compensation</u></a> <span style="float:right">113</span>
<a href="#"><u>ITEM 12.</u></a>	<a href="#"><u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u></a> <span style="float:right">113</span>
<a href="#"><u>ITEM 13.</u></a>	<a href="#"><u>Certain Relationships and Related Transactions, and Director Independence</u></a> <span style="float:right">113</span>
<a href="#"><u>ITEM 14.</u></a>	<a href="#"><u>Principal Accounting Fees and Services</u></a> <span style="float:right">113</span>
<b><u>PART IV</u></b>	
<a href="#"><u>ITEM 15.</u></a>	<a href="#"><u>Exhibits and Financial Statement Schedules</u></a> <span style="float:right">114</span>
<a href="#"><u>ITEM 16.</u></a>	<a href="#"><u>Form 10-K Summary</u></a> <span style="float:right">117</span>
<a href="#"><u>SIGNATURES</u></a>	<a href="#"><u>118</u></a>

## Forward-Looking Statements

*This Annual Report on Form 10-K, which we refer to as the Report, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 regarding future events and the future results of Juniper Networks, Inc., which we refer to as “we,” “us,” or the “Company,” that are based on our current expectations, estimates, forecasts, and projections about our business, our results of operations, the expected impact of the Tax Cuts and Jobs Act, the industry in which we operate and the beliefs and assumptions of our management. All statements other than statement of historical facts are statements that could be deemed to be forward-looking statements. Words such as “expects,” “anticipates,” “targets,” “goals,” “projects,” “will,” “would,” “could,” “intends,” “plans,” “believes,” “seeks,” “estimates,” variations of such words, and similar expressions are intended to identify such forward-looking statements. Forward-looking statements by their nature address matters that are, to different degrees, uncertain, and these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in this Report under the section entitled “Risk Factors” in Item 1A of Part I and elsewhere, and in other reports we file with the U.S. Securities and Exchange Commission, or the SEC. While forward-looking statements are based on reasonable expectations of our management at the time that they are made, you should not rely on them. We undertake no obligation to revise or update publicly any forward-looking statements for any reason, except as required by applicable law.*

## PART I

### ITEM 1. Business

#### Overview

Juniper Networks designs, develops and sells products and services for high-performance networks to enable customers to build scalable, reliable, secure and cost-effective networks for their businesses, while achieving agility and improved operating efficiency through automation. We sell our products in more than 150 countries in three geographic regions: Americas; Europe, Middle East, and Africa, which we refer to as EMEA; and Asia Pacific, which we refer to as APAC. We sell our high-performance network products and service offerings across routing, switching, and security technologies. In addition to our products, we offer our customers services, including maintenance and support, professional services, and education and training programs.

Our products and services address high-performance network requirements for our customers within our verticals: Cloud, Service Provider, and Enterprise who view the network as critical to their success. We believe our silicon, systems, and software represent innovations that transform the economics and experience of networking, helping our customers achieve superior performance, greater choice, and flexibility, while reducing overall total cost of ownership.

We were incorporated in California in 1996 and reincorporated in Delaware in 1998. Our corporate headquarters are located in Sunnyvale, California. Our website address is [www.juniper.net](http://www.juniper.net).

#### Strategy

We deliver highly scalable, reliable, secure and cost-effective networks, while transforming the network’s agility, efficiency, and value through automation.

We believe the network needs for our customers in our Cloud, Service Provider, and Enterprise verticals are converging as these customers recognize the need for high-performance networks and are adopting cloud architectures for their infrastructure and service delivery, such as large public and private data centers and service provider edge data centers, for improved agility and greater levels of operating efficiency. We believe this industry trend presents an opportunity for Juniper Networks, and we have focused our strategy on enabling our customers’ transition to cloud architectures through the following strategic priorities:

#### **Power Public and Private Cloud Data Centers**

We are focused on continuing to power public and private cloud data centers with high performance infrastructure. These data centers are the core of cloud transformation by enabling service delivery in a multicloud environment, which is a combination of public cloud, private cloud, and Software-as-a-Service, or SaaS delivery. We believe we are a recognized leader in networking innovation in both software and hardware. Our Junos Operating System, or Junos OS, application-specific integrated circuits, or ASIC, technology, and management and automation software investments across routing, switching, and security will continue

to be key elements to maintaining our technology leadership and transforming the economics and experience of our public and private cloud customers.

### ***Connect Users and Devices Securely to the Cloud and to Each Other***

In developing our solutions, we strive to design and build best-in-class products and solutions for core, edge, and metro networking infrastructure for connecting user and devices securely to the cloud and to each other. Cloud providers and Service Providers have deployed our product offerings in their wide area networks, or WAN, such as our highly efficient IP transport PTX product which can cost effectively manage incredible capacity from their end users to the data centers from which they deliver the value to those customers. We are committed to continued investment in cost effective and high-performance IP transport platforms and automation software, which forms the basis of these high-performance networks.

### ***Build and Manage Distributed Clouds***

Our Service Provider customers are increasingly investing in the build-out of high-performance networks and the transformation of existing legacy infrastructure to distributed cloud environments, which resides in multiple, distributed data centers in order to place applications and services closer to end users, such as enabling managed security and low-latency applications. We are committed to this transformation as our Service Provider customers rearchitect their infrastructure to enable next generation mobile network build-outs, or 5G, and Internet of Things, or IoT, service delivery close to their end users. We believe our history of experience in both cloud and WAN architecture positions us well to partner with our Service Provider customers in their strategic transformation initiatives.

### ***Cloud-Delivered Enterprise***

Enterprises are consuming more value-as-a-service, where value is delivered in the form of cloud-based software and services. We have introduced cloud management and security products which enable enterprises to consume cloud infrastructure and services securely. We believe the transition to SaaS presents an opportunity for Juniper to come to market with innovative network and security solutions for our Enterprise customers which facilitate their transition to cloud architectures.

We believe our understanding of high performance networking technology and cloud architecture, and our strategy, position us to capitalize on the industry transition to more automated, cost-efficient, scalable networks.

### **Customer Verticals**

We sell our high-performance network products and service offerings through direct sales; distributors; value-added resellers, or VARs; and original equipment manufacturers, or OEMs, to end-users in the following verticals: Cloud, Service Provider, and Enterprise. In 2018, we revised the naming convention of our key customer verticals as follows and a summary of the types of customers included in our verticals is discussed below.

- Telecom/Cable is now referred to as ‘Service Provider’
- Strategic Enterprise is now referred to as ‘Enterprise’
- Cloud remains unchanged

Further, we believe our networking infrastructure offerings benefit our key customers by:

- Reducing capital and operational costs by running multiple services over the same network using our secure, high density, highly automated, and highly reliable platforms;
- Creating new or additional revenue opportunities by enabling new services to be offered to new market segments, which includes existing customers and new customers, based on our product capabilities;
- Increasing customer satisfaction, while lowering costs, by enabling customers to self-select automatically provisioned service packages that provide the quality, speed, and pricing they desire;
- Providing increased asset longevity and higher return on investment as our customers’ networks can scale to higher throughput based on the capabilities of our platforms;

## [Table of Contents](#)

- Offering network security across every environment—from the data center to campus and branch environments to assist in the protection and recovery of services and applications; and
- Offering operational improvements that enable cost reductions, including lower administrative, training, customer care, and labor costs.

The following is an overview of the trends affecting the market in which we operate by each of our customer verticals. We believe the networking needs for each of our customers will eventually result in cloud-based network architectures for improved agility and greater levels of operating efficiency.

### ***Cloud***

Our Cloud vertical includes companies that are heavily reliant on the cloud for their business model's success. Customers in the Cloud vertical can include cloud service providers such as the largest public cloud providers, which we refer to as hyperscalers, and Tier-2 cloud providers, as well as enterprises that provide SaaS; infrastructure-as-a-service; or platform-as-a-service.

Cloud providers continue to grow as more organizations take advantage of public infrastructure to run their business. As their businesses grow, we expect they will continue to invest in their networks, which dictates the quality and experience of the products and the services they deliver to their end-customers. Further, as cloud providers begin to early adopt new network technologies, such as the transition to 400-gig Ethernet, this will present further opportunities for Juniper across our portfolio as our cloud customers value high-performance, highly compact, power efficient infrastructures which we support and continue to develop.

In addition, SaaS continues to be an important factor for cloud providers as their customers, such as enterprises, prefer to consume and procure product and service offerings via SaaS models. As a result, we believe that SaaS providers will invest in high performance infrastructure because the quality of experience has proven just as important competitively as software features and functions. Lastly, as a result of new regulations and the need for lower latency and high-performance networking, cloud providers are transitioning to regional network build-outs or distributed cloud environments to address the increasing demand for services, data privacy, data protection, and consumer rights.

As Cloud customers are pushing the envelope in networking, our focus on collaboration combined with networking innovation around automation has made us a strategic partner with these customers, helping them develop high-performance and lower total cost of ownership networking solutions to support their business.

### ***Service Provider***

Our Service Provider vertical includes wireline and wireless carriers and cable operators, and we support most of the major carrier and operator networks in the world with our high performance network infrastructure offerings. In recent years, we have seen increased convergence of these different types of customers through acquisitions, mergers, and partnerships.

Service Provider customers recognize the need for high-performance networks and leveraging the cloud to reduce costs from their network operations. This is dictating a change in business models and their underlying infrastructure, which we believe requires investment in the build-out of high-performance networks and the transformation of existing legacy infrastructure to distributed cloud environments in order to satisfy the growth in mobile traffic and video as a result of the increase in mobile device usage including smartphones, tablets, and connected devices of various kinds.

We expect that Network Function Virtualization, or NFV, and software-defined networking, or SDN, will be critical elements to enable our Service Provider customers the flexibility to support enhanced mobile video and dynamic new service deployments. We are engaging with these customers to transition their operations to essentially next-generation cloud operations as the need for a highly efficient infrastructure to handle large amounts of data along with low latency, or minimal delay, plays into the need to have a high performance, scalable infrastructure in combination with the automation and flexibility required to drive down operational costs and rapidly provision applications. We consistently deliver leading technologies that transform the economics and experience of networking—significantly improving customer economics by lowering the capital expenditures required to build networks and the operating expenses required to manage and maintain them.

In addition to reducing operating costs, Service Providers are seeking to create new or additional revenue opportunities to support their evolving business models. These customers are preparing for 5G, which we expect to begin to occur over the next few years, and IoT, which we believe will give rise to new services like connected cars, smart cities, robotic manufacturing, and agricultural transformation. 5G and IoT will require a highly distributed cloud data center architecture from which services are delivered to the end users and will involve a great degree of analytics and embedded security. We expect this trend will present further

opportunities for Juniper with our focus on delivering a strong portfolio of network virtualization and software-based orchestration solutions, which position us to deliver on the automation and agility requirements needs of Service Providers.

### **Enterprise**

Our high-performance network infrastructure offerings are designed to meet the performance, reliability, and security requirements of the world's most demanding enterprises. We offer enterprise solutions and services for data centers as well as branch and campus applications. Our Enterprise vertical includes enterprises not included in the Cloud vertical. In particular, they are industries with high performance, high agility requirements, including financial services; national, federal, state, and local governments; as well as research and educational institutions. We believe that our Enterprise customers are able to deploy our solutions as a powerful component in delivering the advanced network capabilities needed for their leading-edge applications.

We believe that as our Enterprise customers continue to transition their workloads to the cloud, they continue to seek greater flexibility in how they consume networking and security services, such as pay-per-use models. Additionally, Enterprises are deploying multicloud architectures which require end-to-end solutions for managing, orchestrating, and securing distributed cloud resources as a single pool of resources. Also, we are increasingly seeing a convergence of networking and security, resulting in security becoming an embedded capability in each and every solution that we offer to our customers.

High-performance enterprises require IP networks that are global, distributed, and always available. We are innovating in key technology areas to meet the needs of our Enterprise customers whether they plan to move to a public cloud architecture or hybrid cloud architecture (which is a mix of public and private cloud, as well as a growing number of SaaS applications). In 2018 , 2017 , and 2016 , no single customer accounted for 10% or more of our net revenues.

### **Products, Services, and Technology**

Early in our history, we developed, marketed, and sold the first commercially available purpose-built IP backbone router optimized for the specific high-performance requirements of telecom and cable operators. As the need for core bandwidth continued to increase, the need for service-rich platforms at the edge of the network was created.

We have expanded our portfolio to address multiple domains in the network: core; edge; access and aggregation; data centers; and campus and branch. We have systematically focused on how we innovate in silicon, systems, and software (including our Junos OS and virtual network functions, or VNF) such as firewall, network orchestration, and automation to provide a range of hardware and software solutions in high-performance, secure networking.

Further, our intent is to expand our software business by introducing new software solutions to our product portfolio that simplify the operation of networks, and allow our customers across our key verticals, flexibility in consumption and deployment. Our software offerings include subscription arrangements and perpetual licenses. We believe our software revenues as a percentage of total revenues will increase over time as we introduce new software product offerings and business models designed to better monetize the value of our software offerings.

We conduct business globally and are managed, operated, and organized by major functional departments that operate on a consolidated basis. As a result, we operate in one reportable segment. The following is an overview of our principal product families and service offerings in 2018 :

### **Routing Products**

- *ACX Series* : Our ACX Series Universal Access Routers cost-effectively address current operator challenges to rapidly deploy new high-bandwidth services. The ACX Series is well positioned to address the growing metro Ethernet and mobile backhaul needs of our customers, as we expect 5G mobile network build-outs to begin to occur over the next few years. The platforms deliver the necessary scale and performance needed to support multi-generation wireless technologies.
- *MX Series* : Our MX Series is a family of high-performance, SDN-ready, Ethernet routers that function as a Universal Edge platform with high system capacity, density, and performance. The MX Series platforms utilize our custom silicon and provide carrier-class performance, scale, and reliability to support large-scale Ethernet deployments. We also offer the vMX, a virtual version of the MX router, which is a fully featured MX Series 3D Universal Edge Router optimized to run as software on x86 servers.

## [Table of Contents](#)

- *PTX Series* : Our PTX Series Packet Transport Routers deliver high throughput at a low cost per bit, optimized for the Service Provider core as well as the scale-out architectures of Cloud Providers. The PTX Series is built on our custom silicon and utilizes a forwarding architecture that is focused on optimizing IP/multi-protocol label switching, or MPLS, and Ethernet. This ensures high density and scalability, high availability, and network simplification.
- *Cloud Customer Premises Equipment, or CPE, Solution* : Our Cloud CPE is a fully automated, end-to-end NFV solution that builds on Juniper Networks Contrail Networking and supports cloud-based and premises-based VNFs. This solution includes Contrail Service Orchestration, a comprehensive management and orchestration platform that delivers and manages virtualized network services such as virtual security, and the NFX security family, a network services platform that can operate as a secure, on-premises device running software defined wide area network, or SD-WAN, and multiple virtual services, from Juniper and third parties, simultaneously.
- *NorthStar Controller* : Our wide-area network SDN controller automates the creation of traffic-engineering paths across the network, increasing network utilization and enabling a customized programmable networking experience.

### **Switching Products**

- *EX Series* : Our EX Series Ethernet switches address the access, aggregation, and core layer switching requirements of micro branch, branch office, and campus environments, providing a foundation for the fast, secure, and reliable delivery of applications able to support strategic business processes. Our EX switches can also serve as security enforcement points as part of our Unified Cybersecurity Platform.
- *QFX Series* : Our QFX Series of core, spine and top-of-rack data center switches offer a revolutionary approach to switching that are designed to deliver dramatic improvements in data center performance, operating costs, and business agility for enterprises, high-performance computing networks, and cloud providers. Our QFX switches can also serve as security enforcement points as part of our Unified Cybersecurity Platform.

### **Security Products**

- *SRX Series Services Gateways for the Data Center and Network Backbone* : Our mid-range, high-end and virtual SRX Series platforms provide high-performance, scalability, and service integration, which are ideally suited for medium to large enterprise, data centers and large campus environments where scalability, high performance, and concurrent services, are essential. Our high-end SRX5800 platform is suited for service provider, large enterprise, and public sector networks. The upgrade to our high-end SRX firewall offering with our Services Process Card 3, or SPC3, with our Advanced Security Acceleration line card enhances the SRX5800 to deliver power for demanding use cases, including high-end data centers, IoT, and 5G.
- *Branch SRX, Security Policy and Management* : The Branch SRX family provides an integrated firewall and next-generation firewall, or NGFW, capabilities. Security Director is a network security management product that offers efficient, highly scalable, and comprehensive network security policy management. These solutions are designed to enable organizations to securely, reliably, and economically deliver powerful new services and applications to all locations and users with superior service quality.
- *Virtual Firewall* : Our vSRX Firewall delivers all of the features of our physical firewalls, including NGFW functionality, advanced security, and automated lifecycle management capabilities. The vSRX provides scalable, secure protection across private, public, and hybrid clouds. We also offer the cSRX which has been designed and optimized for container and cloud environments.
- *Advanced Malware Protection* : Our Advanced Threat Prevention portfolio consists of Sky ATP, a cloud-based service and Juniper ATP, or JATP, a premises-based solution. These products are designed to use both static and dynamic analysis with machine learning to find unknown threat signatures (zero-day attacks).

### **Services**

In addition to our products, we offer maintenance and support, professional, and educational services. We utilize a multi-tiered support model to deliver services that leverage the capabilities of our own direct resources, channels partners, and other third-party organizations.

We also train our channel partners in the delivery of support, professional, and educational services to ensure these services can be locally delivered.

As of December 31, 2018, we employed 1,818 people in our worldwide customer service and support organization. We believe that a broad range of services is essential to the successful customer deployment and ongoing support of our products, and we employ remote technical support engineers, on-site resident engineers, spare parts planning and logistics staff, professional services consultants and educators with proven network experience to provide those services.

### ***Platform Strategy***

In addition to our major product families and services, our software portfolio has been a key technology element in our goal to be a leader in high-performance networking.

Our Junos Platform enables our customers to expand network software into the application space, deploy software clients to control delivery, and accelerate the pace of innovation with an ecosystem of developers. At the heart of the Junos Platform is Junos OS. We believe Junos OS is fundamentally differentiated from other network operating systems not only in its design, but also in its development capabilities. The advantages of Junos OS include:

- One modular operating system with common base of code and a single, consistent implementation for each control plane feature;
- A highly disciplined and firmly scheduled development process; and
- One common modular software architecture that scales across all Junos-based platforms.

Junos OS is designed to improve the availability, performance, and security of business applications running across the network. Junos OS helps to automate network operations by providing a single consistent implementation of features across the network in a single release train that seeks to minimize the complexity, cost, and risk associated with implementing network features and upgrades.

### ***Orchestration and Monitoring***

As many of our customers are moving to a hybrid, multicloud environment, managing, orchestrating, and securing that complex environment can be a challenge. We are committed to providing solutions to simplify networking operations to help our customers to optimize their infrastructure and workload placement across their hybrid, multicloud environment with the following offerings:

- *Contrail* : Our Contrail Networking and Contrail Cloud Platform offer an open-source, standards-based platform for SDN and NFV. This platform enables our customers to address their key problems in the area of network automation, agility, and time-to-service deployment by providing a mechanism to virtualize the network over any physical network and automating the provisioning and management of networking services (such as security and load balancing). Contrail Enterprise Multicloud and Contrail Edge Cloud provide packaged solutions designed for Enterprise multicloud and Service Provider Edge environments, respectively. Contrail's approach is to support multiple cloud and hardware vendors, various types of workloads, and both existing and new deployments. In late 2018, we completed the acquisition of HTBase Corporation ("HTBase"), a company that has developed a unique and disruptive platform for software-defined enterprise multicloud, which we expect will accelerate our leadership in multicloud and function with the compute orchestration capabilities of Contrail Enterprise Multicloud.
- *AppFormix* : AppFormix is an optimization and management software platform for public, private, and hybrid clouds. This intent-driven software manages automated operations, visibility, and reporting in cloud and NFV use cases. It features machine learning-based policy and smart monitors, application and software-defined infrastructure analytics, and alarms to provide comprehensive visualization, smart analytics, and the ability to manage automatic remediation for service assurance.



## **Significant Product Development Projects and Solutions**

In 2018, we continued to execute on our product and solutions strategy and announced several new innovations that we expect to bring to market over the next few quarters, including the industry's first 400-gig optimized routing platform; a new high-performance MX Series 5G Universal Routing Platform with new programmable silicon; and our multi-cloud orchestration and telemetry platform, including Contrail Edge Cloud and Contrail Enterprise Multicloud, each of which, we believe, will help strengthen our position across our core markets.

We also announced new initiatives under an existing partnership with Nutanix, which we expect will help strengthen our ability to capitalize on multicloud with our Contrail Enterprise Multicloud integration with Nutanix's application programming interface, or APIs providing enhanced network visibility. Further, we entered into a new partnership with Ericsson to accelerate 5G initiatives by leveraging each company's complementary portfolios to drive our competitive advantage in the marketplace.

## **Research and Development**

We have assembled a team of skilled engineers with extensive experience in the fields of high-end computing, network system design, ASIC design, security, routing protocols, software applications and platforms, and embedded operating systems. As of December 31, 2018, we employed 3,692 people in our worldwide R&D organization.

We believe that strong product development capabilities are essential to our strategy of enhancing our core technology, developing additional applications, integrating that technology, and maintaining the competitiveness and innovation of our product and service offerings. In our products, we are leveraging our software, ASIC and systems technology, developing additional network interfaces targeted to our customers' applications, and continuing to develop technology to support the build-out of secure high-performance networks and cloud environments. We continue to expand the functionality of our products to improve performance, reliability and scalability, and to provide an enhanced user interface.

Our R&D process is driven by our corporate strategy and the availability of new technology, market demand, and customer feedback. We have invested significant time and resources in creating a structured process for all product development projects. Following an assessment of market demand, our R&D team develops a full set of comprehensive functional product specifications based on inputs from the product management and sales organizations. This process is designed to provide a framework for defining and addressing the steps, tasks, and activities required to bring product concepts and development projects to market.

## **Sales and Marketing**

As of December 31, 2018, we employed 2,425 people in our worldwide sales and marketing organization. These sales and marketing employees operate in different locations around the world in support of our customers.

Our sales organization, with its structure of sales professionals, business development teams, systems engineers, marketing teams, channel teams, and an operational infrastructure team are generally distributed between vertical markets. Within each team, sales team members serve the following three geographic regions: (i) Americas (including United States, Canada, Mexico, Caribbean and Central and South America), (ii) EMEA, and (iii) APAC. Within each region, there are regional and country teams, as well as vertical market focused teams, to ensure we operate close to our customers.

Our sales teams operate in their respective regions and generally either engage customers directly or manage customer opportunities through our distribution and reseller relationships as described below.

We sell to a number of Cloud and Service Provider customers directly. Otherwise, we sell to all of our key customer verticals primarily through distributors and resellers.

In 2019, we transitioned our sales organization to better align our sales strategy to each of our customer verticals. We believe the alignment of our sales leadership and product management teams across our customer verticals will position us for improved sales force productivity in late 2019 and position Juniper to better capitalize on our end market opportunities in the long-term.

### ***Direct Sales Structure***

The terms and conditions of direct sales arrangements are governed either by customer purchase orders and our order acknowledgment terms for those orders or by purchase contracts. The direct contracts with these customers set forth only general terms of sale and generally do not require customers to purchase specified quantities of our products. We directly receive and process customer purchase orders.

### ***Channel Sales Structure***

A critical part of our sales and marketing efforts are our channel partners through which we conduct the majority of our sales. We utilize various channel partners, including, but not limited to the following:

- A global network of strategic distributor relationships, as well as region-specific or country-specific distributors who in turn sell to local VARs who sell to end-user customers. Our distribution channel partners resell routing, switching, and security products and services, which are purchased by all of our key customer verticals. These distributors tend to focus on particular regions or countries within regions. For example, we have substantial distribution relationships with Ingram Micro in the Americas and Hitachi in Japan. Our agreements with these distributors are generally non-exclusive, limited by region, and provide product and service discounts and other ordinary terms of sale. These agreements do not require our distributors to purchase specified quantities of our products or services. Further, most of our distributors sell our competitors' products and services, and some sell their own competing products and services.
- VARs and Direct value-added resellers, including our strategic worldwide alliance partners referenced below, resell our products to end-users around the world. These channel partners either buy our products and services through distributors, or directly from us, and have expertise in designing, selling, implementing, and supporting complex networking solutions in their respective markets. Our agreements with these channel partners are generally non-exclusive, limited by region, and provide product and service discounts and other ordinary terms of sale. These agreements do not require these channel partners to purchase specified quantities of our products or services. Increasingly, our Cloud and Service Provider customers also resell our products or services to their customers or purchase our products or services for the purpose of providing managed or cloud-based services to their customers.
- Strategic worldwide reseller relationships with established Juniper alliances, comprised of Dimension Data Holdings, or Dimension Data; Ericsson Telecom A.B., or Ericsson; International Business Machines, or IBM; and NEC Corporation. These companies each offer services and products that complement our own product and service offerings and act as a reseller, and in some instances as an integration partner for our products. Our arrangements with these partners allow them to resell our products and services on a non-exclusive and generally global basis, provide for product and service discounts, and specify other general terms of sale. These agreements do not require these partners to purchase specified quantities of our products or services.

### **Manufacturing and Operations**

As of December 31, 2018, we employed 340 people in worldwide manufacturing and operations who manage our supply chain including relationships with our contract manufacturers, original design manufacturers, component suppliers, warehousing and logistics service providers.

Our manufacturing is primarily conducted through contract manufacturers and original design manufacturers in the United States, or U.S., China, Malaysia, Mexico, and Taiwan. As of December 31, 2018, we utilized Celestica Incorporated, Flextronics International Ltd., Accton Technology Corporation, and Alpha Networks Inc. for the majority of our manufacturing activity. Our contract manufacturers and original design manufacturers are responsible for all phases of manufacturing from prototypes to full production including activities such as material procurement, surface mount assembly, final assembly, test, control, shipment to our customers, and repairs. Together with our contract manufacturers and original design manufacturers, we design, specify, and monitor the tests that are required to ensure that our products meet internal and external quality standards. We believe that these arrangements provide us with the following benefits:

- We can quickly ramp up and deliver products to customers with turnkey manufacturing;
- We gain economies of scale by leveraging our buying power with our contract manufacturers and original design manufacturers when we manufacture large quantities of products;
- We operate with a minimum amount of dedicated space and employees for manufacturing operations; and
- We can reduce our costs by reducing what would normally be fixed overhead expenses.

Our contract manufacturers and original design manufacturers build our products based on our rolling product demand forecasts. Each contract manufacturer procures components necessary to assemble the products in our forecast and tests the products according to agreed-upon specifications. Products are then shipped to our distributors, VARs, or end-users. Generally, we do not own the components. Title to the finished goods is generally transferred from the contract manufacturers to us when the products leave the

contract manufacturer's or original design manufacturer's location. Customers take title to the products upon delivery at a specified destination. If the product or components remain unused or the products remain unsold for a specified period, we may incur carrying charges or charges for excess or obsolete materials.

Our contracts with our contract manufacturers and original design manufacturers set forth a framework within which the contract manufacturer and original design manufacturer, as applicable, may accept purchase orders from us. These contracts do not represent long-term commitments.

We also purchase and hold inventory for strategic reasons and to mitigate the risk of shortages of certain critical components; the majority of this inventory is production components. As a result, we may incur additional holding costs and obsolescence charges, particularly resulting from uncertainties in future product demand.

Some of our custom components, such as ASICs, are manufactured primarily by sole or limited sources, each of which is responsible for all aspects of production using our proprietary designs. To ensure the security and integrity of Juniper products during manufacture, assembly and distribution, we have implemented a supply chain risk management framework as part of our overall Brand Integrity Management System. This framework encompasses all aspects of the supply chain as well as enhanced elements specific to security issues applicable to Juniper products and our customers.

By working collaboratively with our suppliers, we endeavor to promote socially responsible business practices beyond our company and throughout our worldwide supply chain. To this end, we have adopted a business partner code of conduct and promote compliance with such code of conduct to our suppliers. Our business partner code of conduct expresses support for and is aligned with the Ten Principles of the United Nations Global Compact and the Responsible Business Alliance Code of Conduct. The Responsible Business Alliance, a coalition of electronics, retail, auto and toy companies, provides guidelines and resources to drive performance and compliance with critical corporate social responsibility policies. Its goals are to promote ethical business practices, to ensure that working conditions in the electronic industry supply chain are safe, that workers are treated with respect and dignity, and that manufacturing processes are environmentally responsible. By using standard audit and assessment protocols and tools, we measure and monitor manufacturing partners' and direct material suppliers' compliance to the codes of conduct, including but not limited to: onsite audits; risk assessments; CDP climate change and water requests; and conflict minerals surveys. CDP is a global standardized mechanism by which companies can report their environmental performance on climate change and water and forest programs to institutional investors and customers. Our Corporate Citizenship and Sustainability Report and Business Partner Code of Conduct are available on our website.

### **Backlog**

Our sales are made primarily pursuant to purchase orders under framework agreements either with our distributors, resellers, or end-customers. At any given time, we have backlog orders for products that have not shipped. Because customers may cancel purchase orders or change delivery schedules without significant penalty, we believe that our backlog at any given date may not be a reliable indicator of future operating results. As of December 31, 2018 and December 31, 2017, our total product backlog was approximately \$344.3 million and \$400.7 million <sup>(\*)</sup>, respectively. Our product backlog consists of confirmed orders for products scheduled to be shipped to our distributors, resellers, or end-customers, generally within the next six months. Backlog excludes certain future revenue adjustments for items such as product revenue deferrals, sales return reserves, service revenue allocations, and early payment discounts.

<sup>(\*)</sup> Prior to January 1, 2018, our product backlog consisted of confirmed orders for products scheduled to be shipped to customers, generally within the next six months, and excluded orders from distributors as we recognized product revenue on sales made through distributors upon sell-through to end-users. Backlog also excluded certain future revenue adjustments for items such as product revenue deferrals, rebates, stock rotation reserves, sales return reserves, service revenue allocations, and early payment discounts.

### **Seasonality**

We, as do many companies in our industry, experience seasonal fluctuations in customer spending patterns. Historically, we have experienced stronger customer demand in the fourth quarter and weaker demand in the first quarter. This historical pattern should not be considered a reliable indicator of our future net revenues or financial performance.

## Competition

We compete in the network infrastructure markets. These markets are characterized by rapid change, converging technologies, and a migration to solutions that combine high performance networking with cloud technologies. In the network infrastructure business, Cisco Systems, Inc., or Cisco, has historically been the dominant player. However, our principal competitors also include Arista Networks, Inc., or Arista; Dell Inc., or Dell; Hewlett Packard Enterprise Co., or HPE; Huawei Technologies Co., Ltd., or Huawei; and Nokia Corporation, or Nokia.

Many of our current and potential competitors, such as Cisco, Nokia, HPE, and Huawei, among others, have broader portfolios which enable them to bundle their networking products with other networking and information technology products in a manner that may discourage customers from purchasing our products. Many of our current and potential competitors have greater name recognition, marketing budgets, and more extensive customer bases that they may leverage to compete more effectively. Increased competition could result in price reductions, fewer customer orders, reduced gross margins, and loss of market share, negatively affecting our operating results.

In addition, there are a number of other competitors in the security network infrastructure space, including Palo Alto Networks, Inc., or Palo Alto Networks; Check Point Software Technologies, Ltd., or Check Point; F5 Networks, Inc., or F5 Networks; and Fortinet, Inc., or Fortinet; among others, who tend to be focused specifically on security solutions and, therefore, may be considered specialized compared to our broader product line.

We expect that over time, large companies with significant resources, technical expertise, market experience, customer relationships, and broad product lines, such as Cisco, Nokia, and Huawei, will introduce new products designed to compete more effectively in the market. There are also several other companies that aim to build products with greater capabilities to compete with our products. Further, there has been significant consolidation in the networking industry, with smaller companies being acquired by larger, established suppliers of network infrastructure products. We believe this trend is likely to continue which may increase the competitive pressure faced by us due to their increased size and breadth of their product portfolios.

In addition to established competitors, a number of public and private companies have announced plans for new products to address the same needs that our products address. We believe that our ability to compete depends upon our ability to demonstrate that our products are superior and cost effective in meeting the needs of our current and potential customers.

As a result, we expect to face increased competition in the future from larger companies with significantly more resources than we have and also from emerging companies that are developing new technologies. Although we believe that our technology and the purpose-built features of our products make them unique and will enable us to compete effectively with these companies, there can be no assurance that new products, enhancements or business strategies will achieve widespread market acceptance.

## Environment

We are committed to maintaining compliance with all environmental laws applicable to our operations, products and services and to reducing our environmental impact across our business and supply chain. Our operations and many of our products are subject to various federal, state, local and foreign regulations that have been adopted with respect to the environment, such as the Waste Electrical and Electronic Equipment, or WEEE, Directive; Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, or RoHS; and Registration, Evaluation, Authorization, and Restriction of Chemicals, or REACH, regulations adopted by the European Union, or EU, and China. To date, compliance with federal, state, local, and foreign laws enacted for the protection of the environment has had no material effect on our capital expenditures, earnings, or competitive position. However, see the risk factor entitled "Regulation of our industry in general and the telecommunications industry in particular could harm our operating results and future prospects" in the section entitled *Risk Factors* in Item 1A of Part I of this Report for additional information concerning regulatory compliance.

Juniper's greatest impact on the environment is through our products and services. Juniper has an environmental program, based on our new product introduction process that supports a circular economy model for environmental sustainability and focuses on energy efficiency, materials innovation, and recyclability. We consider opportunities to minimize resource impacts and improve efficiencies over a product's life cycle, from the materials we use and a product's energy footprint, to packaging and end-of-life, or EOL, activities such as reuse, refurbishment, and recycling.

We are committed to the environment through our efforts to improve the energy efficiency per gigabit of throughput of key elements in our high-performance network product offerings. Our products are independently tested by third parties for energy efficiency compliance. As an example, our MX10008 and MX10016 products redefine per-slot economics, enabling customers to do more with less while simplifying network design and reducing operating expenses, by consuming 0.6W per Gigabit of throughput. Additionally, we have redesigned packaging in ways that optimizes costs while minimizing resource impacts.

We are also voluntarily participating in CDP climate change and water disclosures and encourage our direct material suppliers to do the same. Additionally, we are a member of the Responsible Business Alliance, or RBA, and have adopted and promote the adoption by our suppliers of the practices of the RBA Code of Conduct, as discussed above in the section entitled *Manufacturing and Operations*. We continue to invest in the infrastructure and systems required to execute on, monitor and drive environmental improvements in our global operations and within our supply chain.

### **Intellectual Property**

Our success and ability to compete are substantially dependent upon our internally developed technology and expertise, as well as our ability to obtain and protect necessary intellectual property rights. While we rely on patent, copyright, trade secret, and trademark law, as well as confidentiality agreements, to protect our technology, we also believe that factors such as the technological and creative skills of our personnel, new product developments, frequent product enhancements, and reliable product maintenance are essential to establishing and maintaining a technology leadership position. There can be no assurance that others will not develop technologies that are similar or superior to our technology.

In addition, we integrate licensed third-party technology into certain of our products and, from time to time, we need to renegotiate these licenses or license additional technology from third parties to develop new products or product enhancements or to facilitate new business models. There can be no assurance that third-party licenses will be available or continue to be available to us on commercially reasonable terms or at all. Our inability to maintain or re-license any third-party licenses required in our products or our inability to obtain third-party licenses necessary to develop new products and product enhancements could require us to obtain substitute technology of lower quality or performance standards or at a greater cost, any of which could harm our business, financial condition, and results of operations.

As of December 31, 2018, we had over 3,100 patents worldwide and numerous patent applications are pending. Patents generally have a term of twenty years from filing. As our patent portfolio has been built over time, the remaining terms on the individual patents vary. We cannot be certain that patents will be issued on the patent applications that we have filed, that we will be able to obtain the necessary intellectual property rights, or that other parties will not contest our intellectual property rights.

### **Employees**

As of December 31, 2018, we had 9,283 full-time employees. We have not experienced any work stoppages, and we consider our relations with our employees to be good. Competition for qualified personnel in our industry is intense. We believe that our future success depends in part on our continued ability to hire, motivate, and retain qualified personnel. We believe that we have been successful in recruiting qualified employees, but there is no assurance that we will continue to be successful in the future.

Our future performance depends significantly upon the continued service of our key technical, sales, and senior management personnel, none of whom are bound by an employment agreement requiring service for any defined period of time. The loss of one or more of our key employees could have a material adverse effect on our business, financial condition, and results of operations.

**Executive Officers of the Registrant**

The following sets forth certain information regarding our executive officers as of the filing of this Report:

<b>Name</b>	<b>Age</b>	<b>Position</b>
Rami Rahim	48	Chief Executive Officer and Director
Anand Athreya	55	Executive Vice President, Chief Development Officer
Bikash Koley	45	Executive Vice President, Chief Technology Officer
Manoj Leelanivas	49	Executive Vice President, Chief Product Officer
Brian Martin	57	Senior Vice President, General Counsel and Secretary
Kenneth B. Miller	48	Executive Vice President, Chief Financial Officer
Terrance F. Spidell	50	Vice President, Corporate Controller and Chief Accounting Officer

**RAMI RAHIM** joined Juniper in January 1997 and became Chief Executive Officer of Juniper, and a member of the Board of Directors, in November 2014. From March 2014 until he became Chief Executive Officer, Mr. Rahim served as Executive Vice President and General Manager of Juniper Development and Innovation, or JDI. His responsibilities included driving strategy, development and business growth for routing, switching, security, silicon technology, and the Junos operating system. Previously, Mr. Rahim served Juniper in a number of roles, including Executive Vice President, Platform Systems Division, Senior Vice President and General Manager, Edge and Aggregation Business Unit, or EABU, and Vice President, Product Management for EABU. Prior to that, Mr. Rahim spent the majority of his time at Juniper in the development organization where he helped with the architecture, design and implementation of many Juniper core, edge, and carrier Ethernet products. Mr. Rahim holds a Bachelor of Science degree in Electrical Engineering from the University of Toronto and a Master of Science degree in Electrical Engineering from Stanford University.

**ANAND ATHREYA** joined Juniper in August 2004 and became Executive Vice President and Chief Development Officer in August 2017. In this role, he is responsible for Juniper's Engineering organization. Since joining Juniper, Mr. Athreya has held various leadership positions within Engineering, including most recently serving as Senior Vice President of Engineering from May 2014 through August 2017, and Corporate Vice President of Engineering from February 2011 through May 2014. Mr. Athreya joined Juniper from Procket Networks, a maker of routers and routing technology, where he served as Director of Software Engineering. Prior to that, he was Vice President of Engineering at Malibu Networks, a supplier of fixed wireless networking based broadband solutions, Assistant Vice President of Product Management and Strategy at Tiara Networks, a provider of broadband access systems, and held engineering roles at Novell, a software and services company. Mr. Athreya received his Bachelor degree in Electrical Engineering from Bangalore University, a master's degree in Computer Science and Engineering from Osmania University, and an MBA from National University. He is also a graduate of the Advanced Management Program at Harvard Business School.

**BIKASH KOLEY** joined Juniper in September 2017 as Executive Vice President, Chief Technology Officer. From January 2008 to August 2017, Mr. Koley worked at Google, Inc. ("Google"), a global technology company, where he served most recently as a Distinguished Engineer and the Head of Network Architecture, Engineering and Planning from November 2015 through August 2017. In this role, he helped to design, build and operate Google's production network infrastructure. In addition, from May 2012 through October 2015 Mr. Koley served as a Principal Architect and Director, Network Architecture and Engineering at Google. Prior to Google, Mr. Koley was the CTO of Qstreams Networks, a company he co-founded. He also spent several years at Ciena Corporation, a network strategy and technology company, in various technical roles. Mr. Koley received his Bachelor of Technology degree in Electronics and Communications Engineering from the Indian Institute of Technology, Kharagpur, India and M.S. and Ph.D. degrees in Electrical and Computer Engineering from the University of Maryland at College Park.

**MANOJ LEELANIVAS** joined Juniper in March 2018 as Executive Vice President, Chief Product Officer. In this role, Mr. Leelanivas leads all aspects of product strategy and direction for Juniper and helps to align products with our go-to-market strategies and execution, including marketing operations. From June 2013 to September 2017, Mr. Leelanivas was President and CEO of Cyphort, an innovator in scale-out security analytics technology, that was acquired by Juniper in September 2017. From March 1999 to May 2013, he held several key product management positions at Juniper, including Executive Vice President of Advanced Technologies Sales for data center. Mr. Leelanivas holds a Bachelor of Technology in Computer Engineering from the National Institute of Technology Karnataka, an M.S. in Computer Science from the University of Kentucky, and is a graduate of the Stanford University Executive Business Program.

**BRIAN MARTIN** joined Juniper in October 2015 as Senior Vice President, General Counsel and Secretary. In January 2018, Mr. Martin also assumed the role of interim Chief Human Resources Officer ("CHRO") until October 2018, while the Company continued its search for a full-time CHRO. From April 2007 to September 2015, Mr. Martin served as Executive Vice President, General Counsel and Corporate Secretary of KLA-Tencor Corporation ("KLA-Tencor"), a provider of process control and yield management solutions. Prior to joining KLA-Tencor, Mr. Martin spent ten years in senior legal positions at Sun Microsystems, Inc. ("Sun"), a manufacturer of computer workstations, servers, software, and services for networks, most recently as Vice President, Corporate Law Group, responsible for legal requirements associated with Sun's corporate securities, mergers, acquisitions and alliances, corporate governance and Sarbanes-Oxley compliance, and litigation management. Prior to joining Sun, Mr. Martin was in private practice where he had extensive experience in antitrust and intellectual property litigation. Mr. Martin holds a bachelor's degree in economics from the University of Rochester and a J.D. from the State University of New York at Buffalo Law School.

**KENNETH B. MILLER** joined Juniper in June 1999 and has served as our Executive Vice President, Chief Financial Officer since February 2016. Mr. Miller will assume the role of Interim Chief Accounting Officer while the Company continues to search for a full-time Chief Accounting Officer following Mr. Spidell's resignation, as described in Mr. Spidell's biography below. From April 2014 to February 2016, Mr. Miller served as our Senior Vice President, Finance, where he was responsible for the finance organization across the Company, as well as our treasury, tax and global business services functions. Previously, Mr. Miller served as our Vice President, Go-To-Market Finance; Vice President, Platform Systems Division; Vice President, SLT Business Group Controller and in other positions in our Finance and Accounting organizations. Mr. Miller holds a Bachelor of Science degree in Accounting from Santa Clara University.

**TERRANCE F. SPIDELL** joined Juniper in August 2011 as Vice President, Assistant Corporate Controller, and has served as Vice President, Corporate Controller since November 2012. In 2013, Mr. Spidell assumed the position of our Chief Accounting Officer. Before joining Juniper, Mr. Spidell was at VeriSign, Inc., a provider of Internet infrastructure services, as Vice President, Corporate Controller, from June 2009 through July 2011 and as Vice President, Accounting Operations, from March 2008 through June 2009. Prior to VeriSign, Mr. Spidell held various positions, most recently Senior Manager, at PricewaterhouseCoopers, a registered public accounting firm. Mr. Spidell is a Certified Public Accountant and holds a Bachelor of Business Administration degrees in Finance and Accounting, from Boise State University.

Mr. Spidell's full-time employment with Juniper will end on the business day immediately following the date that Juniper's Annual Report on Form 10-K for the fiscal year 2018 is filed with the SEC.

#### **Available Information**

We file our annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, with the SEC electronically. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers, including Juniper Networks that file electronically with the SEC. The address of that website is <https://www.sec.gov>.

You may obtain a free copy of our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports on our website at <http://www.juniper.net> or by sending an e-mail message to Juniper Networks Investor Relations at [investorrelations@juniper.net](mailto:investorrelations@juniper.net). Such reports and other information are available on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Our Corporate Governance Standards, the charters of our Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee, as well as our Worldwide Code of Business Conduct are also available on our website. Information on our website is not, and will not be deemed, a part of this report or incorporated into any other filings the Company makes with the SEC.

Investors and others should note that we announce material financial and operational information to our investors using our Investor Relations website (<http://investor.juniper.net>), press releases, SEC filings and public conference calls and webcasts. We also use the Twitter accounts @JuniperNetworks and the Company's blogs as a means of disclosing information about the Company and for complying with our disclosure obligations under Regulation FD. The social media channels that we use as a means of disclosing information described above may be updated from time to time as listed on our Investor Relations website.

## Item 1A. Risk Factors

### Factors That May Affect Future Results

Investments in our securities involve significant risks. Even small changes in investor expectations for our future growth and earnings, whether as a result of actual or rumored financial or operating results, changes in the mix of the products and services sold, acquisitions, industry changes, or other factors, could trigger, and have triggered in the past, significant fluctuations in the market price of our common stock. Investors in our securities should carefully consider all of the relevant factors disclosed by us, including, but not limited to, the following factors, that could affect our business, operating results, and stock price.

***Our quarterly results are unpredictable and subject to substantial fluctuations; as a result, we may fail to meet the expectations of securities analysts and investors, which could adversely affect the trading price of our common stock.***

Our revenues and operating results may vary significantly from quarter-to-quarter due to a number of factors, many of which are outside of our control and any of which may cause our stock price to fluctuate.

The factors that may cause our quarterly results to vary quarter by quarter and be unpredictable include, but are not limited to:

- unpredictable ordering patterns and limited or reduced visibility into our customers' spending plans and associated revenue;
- changes in customer mix;
- changes in the demand for our products and services;
- changes in the mix of products and services sold;
- changes in the mix of geographies in which our products and services are sold;
- changing market and economic conditions;
- current and potential customer, partner and supplier consolidation and concentration;
- price and product competition;
- long sales, qualification and implementation cycles;
- success in new and evolving markets and emerging technologies;
- how well we execute on our strategy and operating plans and the impact of changes in our business model that could result in significant restructuring charges;
- ability of our customers, channel partners, contract manufacturers and suppliers to purchase, market, sell, manufacture or supply our products (or components of our products) and services;
- financial stability of our customers, including the solvency of private sector customers and statutory authority for government customers to purchase goods and services;
- our ability to achieve targeted cost reductions;
- changes in tax laws or accounting rules, or interpretations thereof;
- changes in the amount and frequency of share repurchases or dividends;
- regional economic and political conditions; and
- seasonality.

For example, we, and many companies in our industry, experience adverse seasonal fluctuations in customer spending, particularly in the first quarter. In addition, while we may have backlog orders for products that have not shipped, we believe that our backlog may not be a reliable indicator of future operating results for a number of reasons, including project delays, changes in project scope and the fact that our customers may cancel purchase orders or change delivery schedules without significant penalty. Furthermore, market trends, competitive pressures, commoditization of products, rebates and discounting, increased component or logistics costs, issues with product quality, regulatory impacts and other factors may result in reductions in revenue or pressure on gross margins in a given period, which may necessitate adjustments to our operations. Such adjustments may be difficult or impossible to execute in the short or medium term.

As a result of the factors described above, as well as other variables affecting our operating results, we believe that quarter-to-quarter comparisons of operating results are not necessarily a good indication of what our future performance will be. In the past, our operating results have been below our guidance, our long-term financial model or the expectations of securities analysts or investors, and this may happen in the future, in which case the price of our common stock may decline and has declined in the past. Such a decline could also occur, and has occurred in the past, even when we have met our publicly stated revenues and/or earnings guidance.



***We expect our gross margins and operating margins to vary over time.***

We expect our product and service gross margins to vary, both in the near-term and in the long-term, and may be adversely affected in the future by numerous factors, some of which have occurred and may occur in the future, including customer, vertical, product and geographic mix shifts, an increase or decrease in our software sales or services we provide, increased price competition in one or more of the markets in which we compete, changes in the actions of our competitors or their pricing strategies, which may be difficult to predict and respond to, modifications to our pricing strategy in order to gain footprint in certain markets or with certain customers, currency fluctuations that impact our costs or the cost of our products and services to our customers, increases in material, labor, logistics, warranty costs, or inventory carrying costs, excess product component or obsolescence charges from our contract manufacturers, issues with manufacturing or component availability, quality or efficiencies, increased costs due to changes in component pricing or charges incurred due to inaccurately forecasting product demand, warranty related issues, or our introduction of new products and enhancements or entry into new markets with different pricing and cost structures. For example, in fiscal year 2018, our margins decreased as compared to fiscal year 2017, primarily due to lower net revenues and product mix. In fiscal year 2017, our margins decreased as compared to fiscal year 2016, primarily due to lower product net revenues and product mix, resulting from the year-over-year decline in routing revenues, our customers' architectural shifts, and higher costs of certain memory components. In fiscal year 2016, our margins decreased compared to fiscal year 2015, primarily due to elevated pricing pressure and product mix. Failure to sustain or improve our gross margins reduces our profitability and may have a material adverse effect on our business and stock price.

Further, while we will continue to remain diligent in our long-term financial objective to increase revenue and operating margins and manage our operating expenses as a percentage of revenue. We expect that our margins will vary with our ability to achieve these goals. We can provide no assurance that we will be able to achieve all or any of the goals of these plans or meet our announced expectations, in whole or in part, or that our plans will have the intended effect of improving our margins on the expected timeline, or at all.

***A limited number of our customers comprise a material portion of our revenues and any changes in the way they purchase products and services from us could affect our business. In addition, there is an ongoing trend toward consolidation in the industry in which our customers and partners operate. Any decrease in revenues from our customers or partners could have an adverse effect on our net revenues and operating results.***

A material portion of our net revenues, across each customer vertical, depends on sales to a limited number of customers and distribution partners. Changes in the business requirements or focus, vendor selection, project prioritization, financial prospects, capital resources, and expenditures, or purchasing behavior (including product mix purchased or delays in deployment) of our key customers could significantly decrease our sales to such customers or could lead to delays or cancellations of planned purchases of our products or services, which increases the risk of quarterly fluctuations in our revenues and operating results. Any of these factors could adversely affect our business, financial condition, and results of operations.

In addition, in recent years, there has been movement towards consolidation in the telecommunications industry (for example, CenturyLink, Inc.'s acquisition of Level 3 Communications, Inc., Vodafone India's acquisition of Idea Cellular Ltd. and T-Mobile US, Inc.'s proposed acquisition of Sprint Corp.) and that consolidation trend has continued. Certain telecommunications companies have also moved towards vertical consolidation through acquisitions of media and content companies, such as Verizon's acquisition of Yahoo, AT&T's acquisition of Time Warner, and Comcast's acquisition of Sky. If our customers or partners are parties to consolidation transactions they may delay, suspend or indefinitely reduce or cancel their purchases of our products or other direct or indirect unforeseen consequences could harm our business, financial condition, and results of operations.

***Fluctuating economic conditions make it difficult to predict revenues and gross margin for a particular period and a shortfall in revenues or increase in costs of production may harm our operating results.***

Our revenues and gross margin depend significantly on general economic conditions and the demand for products in the markets in which we compete. Economic weakness or uncertainty, customer financial difficulties, and constrained spending on network expansion and enterprise infrastructure have in the past resulted in, and may in the future result in, decreased revenues and earnings. Such factors could make it difficult to accurately forecast revenues and operating results and could negatively affect our ability to provide accurate forecasts to our contract manufacturers and manage our contract manufacturer relationships and other expenses. In addition, economic instability or uncertainty, as well as continued turmoil in the geopolitical environment in many parts of the world, have, and may continue to, put pressure on economic conditions, which has led and could lead, to reduced demand for our products, to delays or reductions in network expansions or infrastructure projects, and/or higher costs of production. More generally-speaking, economic weakness may also lead to longer collection cycles for payments due from our customers, an increase in customer bad debt, restructuring initiatives and associated expenses, and impairment of investments. Furthermore, instability in the global markets may adversely impact the ability of our customers to adequately fund their expected expenditures, which could

lead to delays or cancellations of planned purchases of our products or services. Our operating expenses are largely based on anticipated revenue trends and a high percentage of our expenses is, and will continue to be, fixed in the short and medium term. Uncertainty about future economic conditions also makes it difficult to forecast operating results and to make decisions about future investments. Future or continued economic weakness, failure of our customers and markets to recover from such weakness, customer financial difficulties, increases in costs of production, and reductions in spending on network maintenance and expansion could result in price concessions in certain markets or have a material adverse effect on demand for our products and consequently on our business, financial condition, and results of operations.

***Our success depends upon our ability to effectively plan and manage our resources and restructure our business through rapidly fluctuating economic and market conditions, and such actions may have an adverse effect on our financial and operating results.***

Our ability to successfully offer our products and services in a rapidly evolving market requires an effective planning, forecasting, and management process to enable us to effectively scale and adjust our business and business models in response to fluctuating market opportunities and conditions.

From time to time, we have increased investment in our business by, for example, increasing headcount, acquiring companies, and increasing our investment in R&D, sales and marketing, and other parts of our business. Conversely, in 2017, 2018, and 2019, we initiated restructuring plans to realign our workforce as a result of organizational and leadership changes, align our execution priorities, increase operational efficiencies, and to consolidate facilities which resulted in restructuring charges in each of these years. Some of our expenses related to such efforts are fixed costs that cannot be rapidly or easily adjusted in response to fluctuations in our business or numbers of employees. Rapid changes in the size, alignment or organization of our workforce, including sales account coverage, could adversely affect our ability to develop and deliver products and services as planned or impair our ability to realize our current or future business and financial objectives. Our ability to achieve the anticipated cost savings and other benefits from our restructuring initiatives within the expected time frame is subject to many estimates and assumptions, which are subject to significant economic, competitive and other uncertainties, some of which are beyond our control. If these estimates and assumptions are incorrect, if we are unsuccessful at implementing changes, or if other unforeseen events occur, our business and results of operations could be adversely affected.

***We face intense competition that could reduce our revenues and adversely affect our business and financial results.***

Competition is intense in the markets that we serve. The routing and switching markets have historically been dominated by Cisco, with competition coming from other companies such as Nokia Corporation, Arista, HPE, and Huawei. In the security market, we face intense competition from Cisco and Palo Alto Networks, as well as companies such as Check Point, F5 Networks, and Fortinet. Further, a number of other small public and private companies have products or have announced plans for new products to address the same challenges and markets that our products address.

In addition, actual or speculated consolidation among competitors, or the acquisition by, or of, our partners and/or resellers by competitors can increase the competitive pressures faced by us as customers may delay spending decisions or not purchase our products at all. A number of our competitors have substantially greater resources and can offer a wider range of products and services for the overall network equipment market than we do. In addition, some of our competitors have become more integrated, including through consolidation and vertical integration, and offer a broader range of products and services, which could make their solutions more attractive to our customers. Many of our competitors sell networking products as bundled solutions with other IT products, such as compute and storage systems. If we are unable to compete successfully against existing and future competitors on the basis of product offerings or price, we could experience a loss in market share and revenues and/or be required to reduce prices, which could reduce our gross margins, and which could materially and adversely affect our business, financial condition, and results of operations. Our partners and resellers generally sell or resell competing products on a non-exclusive basis and consolidation could delay spending or require us to increase discounts to compete, which could also adversely affect our business.

***The long sales and implementation cycles for our products, as well as our expectation that some customers will sporadically place large orders with short lead times, may cause our revenues and operating results to vary significantly from quarter-to-quarter.***

A customer's decision to purchase certain of our products, particularly new products, involves a significant commitment of its resources and a lengthy evaluation and product qualification process. As a result, the sales cycle may be lengthy. In particular, customers making critical decisions regarding the design and implementation of large network deployments may engage in very lengthy procurement processes that may delay or impact expected future orders. Throughout the sales cycle, we may spend considerable time educating and providing information to prospective customers regarding the use and benefits of our products. Even after making the decision to purchase, customers may deploy our products slowly and deliberately. Timing of deployment

can vary widely and depends on the skill set of the customer, the size of the network deployment, the complexity of the customer's network environment, and the degree of hardware and operating system configuration necessary to deploy the products. Customers with large networks usually expand their networks in large increments on a periodic basis. Accordingly, we may receive purchase orders for significant dollar amounts on an irregular basis. These long cycles, as well as our expectation that customers will tend to sporadically place large orders with short lead times, both of which may be exacerbated by the impact of global economic weakness, may cause revenues and operating results to vary significantly and unexpectedly from quarter-to-quarter.

***The timing of product orders and/or our reliance on revenue from sales of certain software or subscriptions and professional, support and maintenance services may cause us to recognize revenue in a different period than the one in which a transaction takes place.***

Due to the cost, complexity and custom nature of configurations required by our customers, we generally build our network equipment products as orders are received. The volume of orders received late in any given fiscal quarter remains unpredictable. If orders for certain products are received late in any quarter, we may not be able to recognize revenue for these orders in the same period, which could adversely affect our ability to meet our expected revenues for such quarter.

In addition, services revenue accounts for a significant portion of our revenue, comprising 33% , 31% , and 29% of total revenue in fiscal year 2018, 2017, and 2016, respectively. Sales of new or renewal professional services, support and maintenance contracts may decline and/or fluctuate as a result of a number of factors, including end-customers' level of satisfaction with our products and services, the prices of our products and services or those offered by our competitors, and reductions in our end-customers' spending levels. We recognize professional services, support and maintenance revenue periodically over the term of the relevant service period.

The introduction of new software products and services is part of our intended strategy to expand our software business, and certain software revenues may be recognized periodically over the term of the relevant use period or subscription period. As a result, certain software, subscription and support and maintenance revenue we report each fiscal quarter is the recognition of deferred revenue from contracts entered into during previous fiscal quarters. Consequently, a decline in such new or renewed contracts in any one fiscal quarter will not be fully or immediately reflected in revenue in that fiscal quarter but will negatively affect our revenue in future fiscal quarters. Accordingly, the effect of significant downturns in new or renewed sales of certain software products, subscriptions or support and maintenance is not reflected in full in our operating results until future periods. Also, it is difficult for us to rapidly increase such software or services revenue through additional sales in any period, as revenue from those software, subscription and support and maintenance contracts must be recognized over the applicable period.

Additionally, we determine our operating expenses largely on the basis of anticipated revenues and technology roadmap and a high percentage of our expenses are fixed in the short and medium term. As a result, a failure or delay in generating or recognizing revenue could cause significant variations in our operating results and operating margin from quarter-to-quarter.

***We sell our products to customers that use those products to build networks and IP infrastructure, and if the demand for network and IP systems does not continue to grow, our business, financial condition, and results of operations could be adversely affected.***

A substantial portion of our business and revenues depends on the growth of secure IP infrastructure and customers that depend on the continued growth of IP services to deploy our products in their networks and IP infrastructures. As a result of changes in the economy, capital spending or the building of network capacity in excess of demand (all of which, have in the past, particularly affected telecommunications service providers), spending on IP infrastructure can vary, which could have a material adverse effect on our business, financial condition, and results of operations. In addition, a number of our existing customers are evaluating the build-out of their next generation networks. During the decision-making period when our customers are determining the design of those networks and the selection of the software and equipment they will use in those networks, such customers may greatly reduce or suspend their spending on secure IP infrastructure. For example, in recent years, our switching and routing results were adversely affected by spending delays from our largest Cloud customers, who we believe are in the process of implementing a networking architectural shift. The duration of the delay is difficult to predict, in part because each Cloud customer will migrate their network architecture based on their own constraints. Such delays in purchases can make it more difficult to predict revenues from customers, can cause fluctuations in the level of spending by customers and, even where our products are ultimately selected, can have a material adverse effect on our business, financial condition, and results of operations.

***If we do not successfully anticipate technological shifts, market needs and opportunities, and develop products, product enhancements and business strategies that meet those technological shifts, needs and opportunities, or if those products are not made available or strategies are not executed in a timely manner or do not gain market acceptance, we may not be able to compete effectively and our ability to generate revenues will suffer.***

The markets for our products are characterized by rapid technological change, frequent new product introductions, changes in customer requirements, continuous pricing pressures and a constantly evolving industry. We may not be able to anticipate future technological shifts, market needs and opportunities or be able to develop new products, product enhancements or business strategies to meet such technological shifts, needs or opportunities in a timely manner or at all. For example, the move from traditional wide area network, or WAN, infrastructures towards software-defined WAN, or SD-WAN, has been receiving considerable attention. In our view, it will take several years to see the full impact of SD-WAN, and we believe the successful products and solutions in this market will combine hardware and software elements. If we fail to anticipate market requirements or opportunities or fail to develop and introduce new products, product enhancements or business strategies to meet those requirements or opportunities in a timely manner, it could cause us to lose customers, and such failure could substantially decrease or delay market acceptance and sales of our present and future products and services, which would significantly harm our business, financial condition, and results of operations. In addition, if we invest time, energy and resources in developing products for a market that doesn't develop, it could likewise significantly harm our business, financial condition, and results of operations. Even if we are able to anticipate, develop, and commercially introduce new products, enhancements or business strategies, there can be no assurance that new products, enhancements or business strategies will achieve widespread market acceptance.

In recent years, we have announced a number of new products and enhancements to our hardware and software products across routing, switching and security. The success of our new products depends on several factors, including, but not limited to, component costs, timely completion and introduction of these products, prompt resolution of any defects or bugs in these products, our ability to support these products, differentiation of new products from those of our competitors and market acceptance of these products.

The introduction of new software products is part of our intended strategy to expand our software business. We have also begun to disaggregate certain software from certain hardware products, such that customers would be able to purchase or license our hardware and software products independently, which we expect could in time enable our hardware to be deployed with third- party networking applications and services and our software to be used with third-party hardware. The success of our strategy to expand our software business, including our strategy to disaggregate software from certain hardware products, is subject to a number of risks and uncertainties, including:

- the additional development efforts and costs required to create new software products and/or to make our disaggregated products compatible with multiple technologies;
- the possibility that our new software products or disaggregated products may not achieve widespread customer adoption;
- the possibility that our strategy could erode our revenue and gross margins;
- the impact on our financial results of longer periods of revenue recognition for certain types of software products and changes in tax treatment associated with software sales;
- the additional costs associated with regulatory compliance and changes we need to make to our distribution chain in connection with increased software sales;
- the ability of our disaggregated hardware and software products to operate independently and/or to integrate with current and future third-party products; and
- issues with third-party technologies used with our disaggregated products may be attributed to us.

If any of our new products or business strategies do not gain market acceptance or meet our expectations for growth, our ability to meet future financial targets may be adversely affected and our competitive position and our business and financial results could be harmed.

***We are dependent on contract manufacturers with whom we do not have long-term supply contracts, and changes to or disruptions in those relationships or manufacturing processes, expected or unexpected, may result in delays that could cause us to lose revenues and damage our customer relationships.***

We depend on independent contract manufacturers (each of which is a third-party manufacturer for numerous companies) to manufacture our products. Although we have contracts with our contract manufacturers, these contracts do not require them to manufacture our products on a long-term basis in any specific quantity or at any specific price. In addition, it is time-consuming and costly to qualify and implement additional contract manufacturer relationships. Therefore, if we fail to effectively manage our contract manufacturer relationships, which could include failing to provide accurate forecasts of our requirements, or if one or more of them experiences delays, disruptions, or quality control problems in their manufacturing operations, or if we had to change or add additional contract manufacturers or contract manufacturing sites, our ability to ship products to our customers could be delayed. We have experienced in the past and may experience in the future an increase in the expected time required to manufacture our products or ship products. Such delays could result in supply shortfalls that damage our ability to meet customer demand for those products and could cause our customers to purchase alternative products from our competitors. Also, the addition of manufacturing locations or contract manufacturers or the introduction of new products by us would increase the complexity of our supply chain management. Moreover, a significant portion of our manufacturing is performed in China and other foreign countries and is therefore subject to risks associated with doing business outside of the United States, including import tariffs or regional conflicts. For example, the United States recently imposed a tariff on networking products imported from China; this includes certain products that we import into and sell within the United States. If we cannot mitigate the impact of the tariffs, the increased cost could translate into higher prices for our customers, reduced customer demand or increased cost of goods sold. In addition, increased costs of production or delays in production caused by any relocation of contract manufacturing facilities could impact the global competitiveness of our products. Each of these factors could adversely affect our business, financial condition and results of operations.

***We are dependent on sole source and limited source suppliers, including for key components, which makes us susceptible to shortages, quality issues or price fluctuations in our supply chain, and we may face increased challenges in supply chain management in the future.***

We rely on single or limited sources for many of our components. During periods of high demand for electronic products, component shortages are possible, and the predictability of the availability of such components may be limited. For example, we have recently experienced industry-wide supply constraints related to power management components. In addition, some components used in our networking solutions have in the past and may in the future experience extended lead times and higher pricing, given the demand in the market. Any future spike in growth in our business, the use of certain components we share in common with other companies, in IT spending or the economy in general, is likely to create greater short-term pressures on us and our suppliers to accurately forecast overall component demand and to establish optimal component inventories. If shortages or delays persist, we may not be able to secure enough components at reasonable prices or of acceptable quality to build and deliver products in a timely manner, and our revenues, gross margins and customer relationships could suffer. Additionally, if certain components that we receive from our suppliers have defects or other quality issues, we may have to replace or repair such components, and we could be subject to claims based on warranty, product liability, epidemic or delivery failures that could lead to significant expenses. We maintain product liability insurance, but there is no guarantee that such insurance will be available or adequate to protect against all such claims. We have experienced, and from time-to-time may experience, component shortages or quality issues that resulted, or could result, in delays of product shipments, revenue charges that impact our gross margins, and/or warranty or other claims or costs. We also currently purchase numerous key components, including ASICs and other semiconductor chips, from single or limited sources and many of our component suppliers are concentrated in China and Korea. In addition, there has been consolidation among certain suppliers of our components. For example, GLOBALFOUNDRIES acquired IBM's semiconductor manufacturing business, Avago Technologies Limited acquired Broadcom Corporation and Intel Corporation acquired Altera Corporation. Consolidation among suppliers can result in the reduction of the number of independent suppliers of components available to us, which could negatively impact our ability to access certain component parts or the prices we have to pay for such parts. In addition, our suppliers may determine not to continue a business relationship with us for other reasons that may be beyond our control. Any disruptions to our supply chain could decrease our sales, earnings and liquidity or otherwise adversely affect our business and result in increased costs. Such a disruption could occur as a result of any number of events, including, but not limited to, increases in wages that drive up prices, the imposition of regulations, quotas or embargoes on components, labor stoppages, transportation failures affecting the supply chain and shipment of materials and finished goods, third-party interference in the integrity of the products sourced through the supply chain, the unavailability of raw materials, severe weather conditions, natural disasters, civil unrest, military conflicts, geopolitical developments, war or terrorism and disruptions in utility and other services.

The development of alternate sources for components is time-consuming, difficult, and costly. In addition, the lead times associated with certain components are lengthy and preclude rapid changes in quantities and delivery schedules. Also, long-term supply and maintenance obligations to customers increase the duration for which specific components are required, which may further increase

the risk of component shortages or the cost of carrying inventory. In the event of a component shortage or supply interruption from these suppliers, we may not be able to develop alternate or second sources in a timely manner. If we are unable to buy these components in quantities sufficient to meet our requirements on a timely basis, we will not be able to deliver products and services to our customers, which would seriously affect present and future sales, which would, in turn, adversely affect our business, financial condition, and results of operations.

In addition, the development, licensing, or acquisition of new products in the future may increase the complexity of supply chain management. Failure to effectively manage the supply of components and products would adversely affect our business.

***If we fail to accurately predict our manufacturing requirements, we could incur additional costs or experience manufacturing delays, which would harm our business.***

We provide demand forecasts for our products to our contract manufacturers and original design manufacturers, who order components and plan capacity based on these forecasts. If we overestimate our requirements, our original design or contract manufacturers may assess charges, or we may have liabilities for excess inventory, each of which could negatively affect our gross margins. For example, in certain prior quarters, our gross margins were reduced as a result of an inventory charge resulting from inventory we held in excess of forecasted demand. In addition, some optical modules we use are experiencing faster product transitions than our other products, which increases the risk that we could have excess inventory of those modules. Conversely, lead times for required materials and components vary significantly and depend on factors such as the specific supplier, contract terms, and the demand for each component at a given time. Given that our contract manufacturers are third-party manufacturers for numerous other companies, if we underestimate our requirements, as we have in certain prior quarters with respect to certain products, our contract manufacturers may have inadequate time, materials, and/or components required to produce our products. This could increase costs or delay or interrupt manufacturing of our products, resulting in delays in shipments and deferral or loss of revenues and could negatively impact customer satisfaction.

***System security risks, data protection breaches, and cyber-attacks could compromise our and our customers' proprietary information, disrupt our internal operations and harm public perception of our products, which could cause our business and reputation to suffer and adversely affect our stock price.***

In the ordinary course of business, we store sensitive data, including intellectual property, personal data, our proprietary business information and that of our customers, suppliers and business partners on our networks. In addition, we store sensitive data through cloud-based services that may be hosted by third parties and in data center infrastructure maintained by third parties. The secure maintenance of this information is critical to our operations and business strategy. The growing cyber risk environment means that individuals, companies, and organizations of all sizes, including Juniper, have been and are increasingly subject to the threat of intrusions on their networks and systems by a wide range of actors, including but not limited to nation states, criminal enterprises, and terrorist organizations, on an ongoing and regular basis. Despite our security measures, and those of our third-party vendors, our information technology and infrastructure has experienced breaches and may be vulnerable in the future to breach or attacks by computer programmers, hackers or sophisticated nation-state and nation-state supported actors or breached due to employee error or wrongful conduct, malfeasance, or other disruptions. If any breach or attack compromises our networks, creates system disruptions or slowdowns or exploits security vulnerabilities of our products, the information stored on our networks or those of our customers could be accessed and modified, publicly disclosed, lost or stolen, and we may be subject to liability to our customers, suppliers, business partners and others, and suffer reputational and financial harm. In addition, hardware, components and operating system software and applications that we produce or procure from third parties may contain defects in design or manufacture, including "bugs", vulnerabilities and other problems that could unexpectedly interfere with the operation of our networks or expose us or our products to cyber attacks. This can be true even for "legacy" products that have been determined to have reached an end of life engineering status but will continue to operate for a limited amount of time. Furthermore, third parties may attempt to exfiltrate data through the introduction into the Information and Communications Technology supply chain of malicious products and components that are designed to defeat or circumvent encryption and other cybersecurity measures, and if successful, such actions could diminish customer trust in our products, harm our business reputation, and adversely affect our business and financial condition.

When vulnerabilities are discovered, we evaluate the risk, apply patches or take other remediation actions as required and notify customers and suppliers when appropriate. All of this requires significant time and attention from management and our employees.

As a result of any actual or perceived breach of network security that occurs in our network or in the network of a customer of our products, regardless of whether the breach is attributable to our products, the market perception of the effectiveness of our products and our overall reputation could be harmed. As a large, well known provider of networking products, cyber attackers may specifically target our products or attempt to imitate us or our products in order to compromise a network. Because the techniques used by attackers, many of whom are highly sophisticated and well-funded, to access or sabotage networks change

frequently and generally are not recognized until after they are used, we may be unable to anticipate or immediately detect these techniques or the vulnerabilities they have caused. This could impede our sales, manufacturing, distribution or other critical functions, which could have an adverse impact on our financial results. The economic costs to us to eliminate or alleviate cyber or other security problems, bugs, viruses, worms, malicious software systems and security vulnerabilities could be significant and may be difficult to anticipate or measure, because the damage may differ based on the identity and motive of the attacker, which are often difficult to pinpoint. Additionally, we could be subject to regulatory investigations, potential fines and litigation in connection with a security breach or related issue and be liable to third parties for these types of breaches.

***We rely on value-added and other resellers, as well as distribution partners, to sell our products, and disruptions to, or our failure to effectively develop and manage, our distribution channel and the processes and procedures that support it could adversely affect our ability to generate revenues from the sale of our products.***

Our future success is highly dependent upon establishing and maintaining successful relationships with a variety of value-added and other reseller and distribution partners, including our worldwide strategic partners such as Ericsson, IBM, Dimension Data and NEC Corporation. The majority of our revenues are derived through value-added resellers and distributors, most of which also sell our competitors' products, and some of which sell their own competing products. Our revenues depend in part on the performance of these partners. The loss of or reduction in sales to our resellers or distributors could materially reduce our revenues. Our competitors may in some cases be effective in leveraging their market share positions or in providing incentives to current or potential resellers and distributors to favor their products or to prevent or reduce sales of our products. If we fail to develop and maintain relationships with our partners, fail to develop new relationships with value-added resellers and distributors in new markets, fail to expand the number of distributors and resellers in existing markets, fail to manage, train or motivate existing value-added resellers and distributors effectively, determine that we cannot continue to do business with these partners for any reason or if these partners are not successful in their sales efforts, sales of our products may decrease, and our business, financial condition, and results of operations would suffer.

In addition, we recognize a portion of our revenues at the time we sell products to our distributors. If these sales are made based on inaccurate or untimely information, the amount or timing of our revenues could be adversely impacted. Further, our distributors may increase orders during periods of product shortages, cancel orders if their inventory is too high, or delay orders in anticipation of new products. They also may adjust their orders in response to the supply of our products and the products of our competitors that are available to them, and in response to seasonal fluctuations in end-user demand.

We are also vulnerable to third parties who illegally distribute or sell counterfeit, stolen or unfit versions of our products, which has happened in the past and could happen in the future. Such sales could have a negative impact on our reputation and business.

Further, in order to develop and expand our distribution channel, we must continue to offer attractive channel programs to potential partners and scale and improve our processes and procedures that support the channel. As a result, our programs, processes and procedures may become increasingly complex and inherently difficult to manage. We have previously entered into OEM agreements with partners pursuant to which they rebrand and resell our products as part of their product portfolios. These types of relationships are complex and require additional processes and procedures that may be challenging and costly to implement, maintain and manage. Our failure to successfully manage and develop our distribution channel and the programs, processes and procedures that support it could adversely affect our ability to generate revenues from the sale of our products. We also depend on our global channel partners to comply with applicable legal and regulatory requirements. To the extent that they fail to do so, that could have a material adverse effect on our business, operating results, and financial condition.

***Our ability to process orders and ship products in a timely manner is dependent in part on our business systems and performance of the systems and processes of third parties as well as the interfaces between our systems and the systems of such third parties. Dependence on outsourced information technology and other administrative functions may impair our ability to operate effectively.***

Some of our business processes depend upon our IT systems, the systems and processes of third parties, and the interfaces between the two. For example, we are in the process of further consolidating our on-site data centers to the cloud and to off-site facilities that are hosted and controlled by third parties. In addition, on December 31, 2018, we entered into a Master Services Agreement and certain Statements of Work with IBM pursuant to which we will outsource significant portions of our IT and other administrative functions following a transition period. These cloud providers, third party providers, and off-site facilities are vulnerable to damage, interruption or performance problems from earthquakes, hurricanes, floods, fires, power loss, telecommunications failures, equipment failure, adverse events caused by operator error, cybersecurity attacks and similar events. In addition, because we lease our cloud storage space and off-site data center facilities, we cannot be assured that we will be able to expand our data center infrastructure to meet user demand in a timely manner, or on favorable economic terms. If we have issues receiving and processing

data, this may delay our ability to provide products and services to our customers and damage our business. We also rely upon the performance of the systems and processes of our contract manufacturers to build and ship our products. If those systems and processes experience interruption or delay, our ability to build and ship our products in a timely manner may be harmed. Since IT is critical to our operations, any failure to perform on the part of our IT providers could impair our ability to operate effectively. In addition to the risks outlined above, problems with any of the third parties we rely on for our IT systems could result in lower revenue and unexecuted efficiencies, and impact our results of operations and our stock price.

***Integration of acquisitions could disrupt our business and harm our financial condition and stock price and may dilute the ownership of our stockholders.***

We have made, and may continue to make, acquisitions in order to enhance our business. For example, we acquired HTBase in 2018 and Cyphort in 2017. Acquisitions involve numerous risks, including, but not limited to, problems combining the purchased operations, technologies or products, unanticipated costs, liabilities, litigation, and diversion of management's attention from our core businesses, adverse effects on existing business relationships with suppliers and customers, risks associated with entering markets in which we have no or limited prior experience, and where competitors in such markets have stronger market positions, initial dependence on unfamiliar supply chains or relatively small supply partners, and the potential loss of key employees, customers, distributors, vendors and other business partners of the companies we acquire. There can be no assurance that we will be able to integrate successfully any businesses, products, technologies, or personnel that we might acquire. The integration of businesses that we may acquire is likely to be a complex, time-consuming, and expensive process and we may not realize the anticipated revenues or other benefits associated with our acquisitions. If we fail to successfully manage, operate or integrate any acquired business or if we are unable to efficiently operate as a combined organization utilizing common information and communication systems, operating procedures, financial controls, and human resources practices, our business, financial condition, and results of operations may be adversely affected.

In connection with certain acquisitions, we may agree to issue common stock, or assume equity awards, that dilute the ownership of our current stockholders, use a substantial portion of our cash resources, assume liabilities (both known and unknown), record goodwill and amortizable intangible assets that will be subject to impairment testing on a regular basis and potential periodic impairment charges, incur amortization expenses related to certain intangible assets, and incur large and immediate write-offs and restructuring and other related expenses, all of which could harm our financial condition and results of operations.

***We are a party to lawsuits, investigations, proceedings, and other disputes, which are costly to defend and, if determined adversely to us, could require us to pay fines or damages, undertake remedial measures or prevent us from taking certain actions, any or all of which could harm our business, results of operations, financial condition or cash flows.***

We, and certain of our current and former officers and current and former members of our Board of Directors, have been or are subject to various lawsuits. We have been served with lawsuits related to employment matters, commercial transactions and patent infringement, as well as securities laws. The U.S. Securities and Exchange Commission, or the SEC, is conducting, and the U.S. Department of Justice, or the DOJ, was previously conducting investigations into possible violations by the Company of the U.S. Foreign Corrupt Practices Act, or the FCPA, in a number of countries. The Company's Audit Committee, with the assistance of independent advisors, conducted a thorough internal review of possible violations of the FCPA, and the Company made improvements in its internal controls and carried out a number of disciplinary actions. The Company is continuing to fully cooperate with the SEC's ongoing investigation, and based on the recent communications with the Staff of the SEC, the Company believes it is likely that the Staff of the SEC will seek to bring an enforcement action against the Company. The Company believes it is probable that it could incur a loss and has established an estimated legal reserve of \$12.0 million related to the ongoing SEC investigation. Litigation and investigations are inherently uncertain. We therefore cannot predict the duration, scope, outcome or consequences of litigation and government investigations. In connection with any government investigations, including those in which we are currently involved as described above, if the government takes action against us or we agree to settle the matter, we may be required to pay substantial fines and incur other sanctions, which may be material, and suffer reputational harm. The lawsuits and investigations are expensive and time-consuming to defend, settle, and/or resolve, and may require us to implement certain remedial measures that could prove costly or disruptive to our business and operations. The unfavorable resolution of one or more of these matters could have a material adverse effect on our business, results of operations, financial condition or cash flows.



***We are a party to litigation and claims regarding intellectual property rights, resolution of which may be time-consuming and expensive, as well as require a significant amount of resources to prosecute, defend, or make our products non-infringing.***

Our industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding patent and other intellectual property rights. We expect that infringement claims may increase as the number of products and competitors in our market increases and overlaps occur. Third parties have asserted and may in the future assert claims or initiate litigation related to patent, copyright, trademark, and other intellectual property rights to technologies and related standards that are relevant to our products. The asserted claims and/or initiated litigation may include claims against us or our manufacturers, suppliers, partners, or customers, alleging that our products or services infringe proprietary rights. In addition, increased patent litigation brought by non-practicing entities in recent years may result, and in some cases has resulted, in our customers requesting or requiring us to absorb a portion of the costs of such litigation or providing broader indemnification for litigation, each of which could increase our expenses and negatively affect our business, financial condition and results of operations. Regardless of the merit of these claims, they have been and can be time-consuming, result in costly litigation, and may require us to develop non-infringing technologies, enter into license agreements, or cease engaging in certain activities or offering certain products or services. Furthermore, because of the potential for high awards of damages or injunctive relief that are not necessarily predictable, even arguably unmeritorious claims may be settled for significant amounts of money. If any infringement or other intellectual property claim made against us or anyone we are required to indemnify by any third-party is successful, if we are required to settle litigation for significant amounts of money, if we fail to develop non-infringing technology, if we incorporate infringing technology in our products or if we license required proprietary rights at material expense, our business, financial condition, and results of operations could be materially and adversely affected.

***As we seek to sell more products to telecommunications, cable and cloud service provider companies and other large customers, we may be required to agree to terms and conditions that could have an adverse effect on our business or impact the amount of revenues to be recognized.***

Telecommunications, cable and cloud service provider companies, which comprise a significant portion of our customer base, and other large companies, generally have greater purchasing power than smaller entities and, accordingly, often request and receive more favorable terms from suppliers. For example, our customers France Telecom-Orange and Deutsche Telekom AG have formed a company for the purpose of purchasing products from, and negotiating more favorable contractual terms with, suppliers. As we seek to sell more products to this class of customer, we may be required to agree to such terms and conditions, which may include terms that affect the timing of our ability to recognize revenue, increase our costs and have an adverse effect on our business, financial condition, and results of operations. Consolidation among such large customers can further increase their buying power and ability to require onerous terms.

In addition, service providers have purchased products from other vendors who promised but failed to deliver certain functionality and/or had products that caused problems or outages in the networks of these customers. As a result, these customers may request additional features from us and require substantial penalties for failure to deliver such features or may require substantial penalties for any network outages that may be caused by our products. These additional requests and penalties, if we are required to agree to them, may impact the amount of revenue recognition from such sales, which may negatively affect our business, financial condition and results of operations. In addition, increased patent litigation brought against customers by non-practicing entities in recent years, may result, and in some cases has resulted, in customers requesting or requiring vendors to absorb a portion of the costs of such litigation or providing broader indemnification for litigation, each of which could increase our expenses and negatively affect our business, financial condition and results of operations.

***Regulation of our industry in general and the telecommunications industry in particular could harm our operating results and future prospects.***

We are subject to laws and regulations affecting the sale of our products in a number of areas. For example, some governments have regulations prohibiting government entities from purchasing security products that do not meet country-specific safety, conformance or security certification criteria or in-country test requirements. Other regulations that may negatively impact our business include local content or local manufacturing requirements most commonly applicable for government, state-owned enterprise or regulated industry procurements. These types of regulations are in effect or under consideration in several jurisdictions where we do business.

The Dodd-Frank Wall Street Reform and Consumer Protection Act includes disclosure requirements applicable to public companies regarding the use of “conflict minerals” mined from the Democratic Republic of Congo and adjoining countries, which we refer to collectively as the DRC, and procedures regarding a manufacturer's efforts to prevent the sourcing of such “conflict minerals.” These minerals are present in our products. In addition, the European Union reached agreement in late 2016 on a EU-wide conflict minerals rule under which most EU importers of tin, tungsten, tantalum, gold and their ores will have to conduct due diligence to

ensure the minerals do not originate from conflict zones and do not fund armed conflicts. Large manufacturers also will have to disclose how they plan to monitor their sources to comply with the rules. The regulation was adopted in 2017 with compliance required by 2021.

In addition, environmental laws and regulations relevant to electronic equipment manufacturing or operations, including laws and regulations governing the hazardous material content of our products and laws relating to the collection of and recycling of electrical and electronic equipment, may adversely impact our business and financial condition. These laws and regulations include, among others, the European Union, or EU, Restriction on the Use of Certain Hazardous Substances Directive, or RoHS. The EU RoHS and the similar laws of other jurisdictions limit the content of certain hazardous materials, such as lead, mercury, and cadmium, in electronic equipment, including our products. Currently, our products comply with the EU RoHS requirements. However, certain exemptions are scheduled to lapse. The lapse of any exemption, further changes to this or other laws, or passage of similar laws in the EU or other jurisdictions, would require us to cease selling non-compliant products and to reengineer our products to use components compatible with these regulations. This reengineering and component substitution could result in additional costs to us, disrupt our operations or logistics, and result in an adverse impact on our operating results. In addition, in validating the compliance of our products with applicable hazardous materials restrictions, we rely substantially on affirmations by our component suppliers as to the compliance of their products with respect to those same restrictions. Failure by our component suppliers to furnish accurate and timely information could subject us to penalties or liability for violation of such hazardous materials restrictions, interrupt our supply of products to the EU, and result in our customers refusing or being unable to purchase our products. Additionally, the EU and a number of other jurisdictions have adopted regulations requiring producers of electrical and electronic equipment to assume certain responsibilities for collecting, treating, recycling and disposing of products when they have reached the end of their useful life. Finally, the EU REACH regulations regulate the handling of certain chemical substances that may be used in our products.

In addition, as a contractor and subcontractor to U.S. government departments and agencies, we are subject to federal regulations pertaining to our IT systems. For instance, as a subcontractor to the U.S. Department of Defense, or DOD, the Defense Federal Acquisition Regulation Supplement, or DFARS, required that our IT systems comply with the security and privacy controls described in National Institute of Standards and Technology Special Publication 800-171, or NIST SP 800-171. The DFARS also requires that we flow the security control requirement down to certain of our own subcontractors. Failure to comply with these requirements could result in a loss of federal government business, subject us to claims or other remedies for non-compliance and negatively impact our business, financial condition, and results of operations.

The telecommunications industry is highly regulated, and our business and financial condition could be adversely affected by changes in regulations relating to the Internet telecommunications industry. Similarly, while there are currently few laws or regulations that apply directly to access to or commerce on IP networks, future regulations could include sales taxes on products sold via the Internet and Internet service provider access charges. We could be adversely affected by regulation of IP networks and commerce in any country where we market equipment and services to service providers or cloud provider companies. Regulations governing the range of services and business models that can be offered by service providers or cloud provider companies could adversely affect those customers' needs for products. For instance, in December 2017, the U.S. Federal Communications Commission repealed its 2015 regulations governing aspects of fixed broadband networks and wireless networks. This change in regulatory treatment of networks might impact service provider and cloud provider business models and their need for Internet telecommunications equipment and services. At the same time, several states have enacted their own laws and regulations governing certain aspects of fixed and wireless networks in the manner of the 2015 FCC regulations. These laws and regulations enacted by the states are or will be subject to legal challenges from the federal government and/or regulated providers. Also, many jurisdictions are evaluating or implementing regulations relating to cyber security, supply chain integrity, privacy and data protection, any of which can affect the market and requirements for networking and security equipment.

The adoption and implementation of additional regulations could reduce demand for our products, increase the cost of building and selling our products, result in product inventory write-offs, impact our ability to ship products into affected areas and recognize revenue in a timely manner, require us to spend significant time and expense to comply, and subject us to fines and civil or criminal sanctions or claims if we were to violate or become liable under such regulations. Any of these impacts could have a material adverse effect on our business, financial condition, and results of operations.

***Governmental regulations and economic sanctions affecting the import or export of products generally or affecting products containing encryption capabilities in particular, could negatively affect our revenues and operating results.***

The United States and various foreign governments have imposed controls and restrictions on the export of, among other things, products that contain or use encryption technology. Most of our products contain or use encryption technology and, consequently, are subject to such controls, requirements and restrictions. Certain governments, like those of Russia and China, control importation and in-country use of encryption items and technology. The scope, nature and severity of such controls vary widely across different countries and may change frequently over time.

Increasingly, governments have begun using export and import controls not only to further national security objectives but also to protect local industries and restrict proliferation of locally developed “emerging or foundational technology.” For example, in 2018 the U.S. enacted the Export Control Reform Act, which expands the power of the Commerce Department to use export controls to protect domestic industry and to restrict the export of emerging and foundational technologies not currently subject to controls. In furtherance of that law, on November 19, 2018, the United States Department of Commerce sought public comment on how to define emerging technologies. Our ability to market and sell our products overseas may be impacted by such export controls.

Certain governments also impose special local content, certification, testing, source code review, escrow and governmental recovery of private encryption keys, or feature requirements on cybersecurity and other network equipment for purposes of government procurements. Similar requirements also may be imposed in procurements by state owned entities (“SOE’s”) or even private companies forming part of “critical network infrastructure” or supporting sensitive industries. For example, China, Vietnam and India have promulgated cybersecurity regulations affecting networking products that may impair our ability to profitably market and sell our products there. China, in particular, is expected to require implementation of non-standard Chinese encryption algorithms in products sold into certain government, SOE, critical infrastructure and sensitive industry (such as financial institutions) markets. In the U.S., there are new restrictions on the use of certain Chinese-origin components or systems in items sold to the U.S. government.

In addition, the U.S. and other governments have especially broad sanctions and embargoes prohibiting provision of goods or services to certain countries, and territories, and to certain sanctioned governments, legal entities and individuals. Some of these restrictions have been imposed not just to protect national security but also to protect domestic industries and to achieve political aims. For instance, the U.S. Department of Commerce in 2018 added to its Entity List a Chinese semiconductor manufacturer on the express basis that it threatens the viability of U.S. competitors; the Entity List traditionally is used to restrict exports to end users that pose a security risk. Particularly far reaching and complex are restrictions imposed by the U.S. and EU on exports to Russia and, in particular, to the disputed region of Crimea. We have implemented systems to detect and prevent sales into these restricted countries or to prohibited entities or individuals, but there can be no assurance that our third party, downstream resellers and distributors will abide by these restrictions or have processes in place to ensure compliance, especially where local government regulation might prohibit adherence to such restrictions.

In addition, governments sometimes impose additional taxes on certain imported products. For example, the United States and Chinese governments each have imposed tariffs on certain products originating from the other country. In 2018, the United States, for example, imposed tariffs on a large variety of products of China origin. As a result, beginning September 24, 2018, a large portion of Juniper products manufactured in China became subject to a 10% tariff on importation into the U.S. That tariff rate may increase to 25% on March 2, 2019, absent satisfactory outcome of continuing negotiations between the United States and China. The U.S. President has also indicated a readiness to further expand the scope of the tariffs on Chinese goods if negotiations are not successful; such action could subject an even wider range of Juniper products to tariff on importation into the U.S. Depending upon its duration and implementation, as well as our ability to mitigate their impact, these tariffs could materially affect our business, including in the form of increased cost of goods sold, increased pricing for customers, and reduced sales.

Governmental regulation of encryption or IP networking technology and regulation of imports or exports, or our failure to obtain required import or export approval for our products, or related economic sanctions could harm our international and domestic sales and adversely affect our revenues and operating results. In addition, failure to comply with such regulations could result in harm to our reputation and ability to compete in international markets, penalties, costs, seizure of assets (including source code) and restrictions on import or export privileges or adversely affect sales to government agencies or government-funded projects.

***Our actual or perceived failure to adequately protect personal data could adversely affect our business, financial condition and results of operations.***

A wide variety of provincial, state, national, foreign, and international laws and regulations apply to the collection, use, retention, protection, disclosure, transfer, and other processing of personal data. These privacy- and data protection-related laws and regulations are evolving, with new or modified laws and regulations proposed and implemented frequently and existing laws and regulations subject to new or different interpretations. Further, our legal and regulatory obligations in foreign jurisdictions are subject to unexpected changes, including the potential for regulatory or other governmental entities to enact new or additional laws or regulations, to issue rulings that invalidate prior laws or regulations, or to increase penalties significantly. Compliance with these laws and regulations can be costly and can delay or impede the development and offering of new products and services.

For example, the General Data Protection Regulation (“GDPR”), which became effective in May 2018, imposes more stringent data protection requirements, and provides for significantly greater penalties for noncompliance, than the EU laws that previously applied. Additionally, California recently enacted legislation, the California Consumer Privacy Act (“CCPA”), which will become effective January 1, 2020. The CCPA will, among other requirements, require covered companies to provide new disclosures to California consumers, and allow such consumers new abilities to opt-out of certain sales of personal information. Legislators have stated that they intend to propose amendments to the CCPA before the effective date. It remains unclear the extent of the modifications that will be made to the CCPA, or how such modifications will be interpreted. The effects of the CCPA potentially are significant and may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply. We may also be subject to additional obligations relating to personal data by contract that industry standards apply to our practices. Our actual or perceived failure to comply with applicable laws and regulations or other obligations to which we may be subject relating to personal data, or to protect personal data from unauthorized access, use, or other processing, could result in enforcement actions and regulatory investigations against us, claims for damages by customers and other affected individuals, fines, damage to our reputation, and loss of goodwill, any of which could have a material adverse effect on our operations, financial performance, and business. Further, evolving and changing definitions of personal data and personal information, within the EU, the U.S., U.K., and elsewhere, including the classification of IP addresses, machine identification information, location data, and other information, may limit or inhibit our ability to operate or expand our business, including limiting business relationships and partnerships that may involve the sharing or uses of data, and may require significant costs, resources, and efforts in order to comply.

***Our ability to develop, market, and sell products could be harmed if we are unable to retain or hire key personnel.***

Our future success depends upon our ability to recruit and retain the services of executive, engineering, sales and marketing, and support personnel. The supply of highly qualified individuals, in particular engineers in very specialized technical areas, or sales people with specialized industry expertise, is limited and competition for such individuals is intense. None of our officers or key employees is bound by an employment agreement for any specific term. The loss of the services of any of our key employees, the inability to attract or retain personnel in the future or delays in hiring required personnel, engineers and sales people, and the complexity and time involved in replacing or training new employees, could delay the development and introduction of new products, and negatively impact our ability to market, sell, or support our products.

A number of our team members are foreign nationals who rely on visas and entry permits in order to legally work in the United States and other countries. In recent years, the United States has increased the level of scrutiny in granting H-1(B), L-1 and other business visas. In addition, the current U.S. administration has made immigration reform a priority. Compliance with United States immigration and labor laws could require us to incur additional unexpected labor costs and expenses or could restrain our ability to retain skilled professionals. Any of these restrictions could have a material adverse effect on our business, results of operations and financial conditions.

***Our financial condition and results of operations could suffer if there is an impairment of goodwill or other intangible assets with indefinite lives.***

We are required to test intangible assets with indefinite lives, including goodwill, annually or more frequently if certain circumstances change that would more likely than not reduce the fair value of a reporting unit and intangible assets below their carrying values. As of December 31, 2018, our goodwill was \$3,108.8 million and our intangible assets with indefinite lives was \$49.0 million. When the carrying value of a reporting unit’s goodwill exceeds its implied fair value of goodwill, or if the carrying amount of an intangible asset with an indefinite life exceeds its fair value, a charge to operations is recorded. Either event would result in incremental expenses for that quarter, which would reduce any earnings or increase any loss for the period in which the impairment was determined to have occurred. We have in the past recorded goodwill impairment charges. Declines in our level of revenues or declines in our operating margins, or sustained declines in our stock price, increase the risk that goodwill and intangible assets with indefinite lives may become impaired in future periods.

Our goodwill impairment analysis is sensitive to changes in key assumptions used in our analysis, such as expected future cash flows, the degree of volatility in equity and debt markets, and our stock price. If the assumptions used in our analysis are not realized, it is possible that an impairment charge may need to be recorded in the future. We cannot accurately predict the amount and timing of any impairment of goodwill or other intangible assets. However, any such impairment would have an adverse effect on our results of operations.

***Changes in effective tax rates or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our results.***

Our future effective tax rates could be subject to volatility or adversely affected by the following: earnings being lower than anticipated in countries where we have lower statutory rates and higher than anticipated earnings in countries where we have higher statutory rates; changes in the valuation of our deferred tax assets and liabilities; expiration of, or lapses in, the R&D tax credit laws applicable to us; transfer pricing adjustments related to certain acquisitions, including the license of acquired intangibles under our intercompany R&D cost sharing arrangement; costs related to intercompany restructuring; tax effects of share-based compensation; challenges to our methodologies for valuing developed technology or intercompany arrangements; limitations on the deductibility of net interest expense; or changes in tax laws, regulations, accounting principles, or interpretations thereof. For example, on July 24, 2018, the Ninth Circuit Court of Appeals, or the Court, issued an opinion in *Altera Corp. v. Commissioner* requiring related parties in an intercompany cost-sharing arrangement to share expenses related to share-based compensation. On August 7, 2018, the Court withdrew its opinion to allow time for a reconstituted panel to confer. We are monitoring this case and any impact the final opinion may have on our financial statements. In addition, the Tax Cuts and Jobs Act of 2017 (the “Tax Act”), which was signed into law on December 22, 2017, made significant changes to the taxation of U.S. business entities that may have a meaningful impact to our provision for income taxes. These changes included a reduction to the federal corporate income tax rate, the current taxation of certain foreign earnings, the imposition of base-erosion prevention measures which may limit the deduction of certain transfer pricing payments, and possible limitations on the deductibility of net interest expense or corporate debt obligations. Accounting for the income tax effects of the Tax Act required significant judgments and estimates that are based on current interpretations of the Tax Act. The U.S. Department of the Treasury continues to issue Proposed Regulations that affect various components of the Act. Our future effective tax rate may be impacted by changes in interpretation of the regulations, as well as additional legislation and guidance regarding the Act.

Furthermore, on October 5, 2015, the Organisation for Economic Co-operation and Development, or OECD, an international association of 35 countries including the U.S., published final proposals under its Base Erosion and Profit Shifting, or BEPS, Action Plan. The BEPS Action Plan includes fifteen Actions to address BEPS in a comprehensive manner and represents a significant change to the international corporate tax landscape. These proposals, as adopted by countries, may increase tax uncertainty and adversely affect our provision for income taxes. In addition, we are subject to the continuous examination of our income tax returns by the Internal Revenue Service, or IRS, and other tax authorities. It is possible that tax authorities may disagree with certain positions we have taken and any adverse outcome of such a review or audit could have a negative effect on our financial position and operating results. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes, but the determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment by management, and there are transactions where the ultimate tax determination is uncertain. Although we believe that our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our consolidated financial statements and may materially affect our financial results in the period or periods for which such determination is made. There can be no assurance that the outcomes from continuous examinations will not have an adverse effect on our business, financial condition, and results of operations.

***We may face difficulties enforcing our proprietary rights, which could adversely affect our ability to compete.***

We generally rely on a combination of patents, copyrights, trademarks, and trade secret laws and contractual restrictions on disclosure of confidential and proprietary information, to establish and maintain proprietary rights in our technology and products. Although we have been issued numerous patents and other patent applications are currently pending, there can be no assurance that any of our patent applications will result in issued patents or that any of our patents or other proprietary rights will not be challenged, invalidated, infringed or circumvented or that our rights will, in fact, provide competitive advantages to us or protect our technology, any of which could result in costly product redesign efforts, discontinuance of certain product offerings and other competitive harm.

In addition, despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or obtain and use information that we regard as proprietary. We generally enter into confidentiality or license agreements with our employees, consultants, vendors, and customers, and generally limit access to and distribution of our proprietary information. However, we cannot assure you that we have entered into such agreements with all parties who may have or have had access to our confidential information or that the agreements we have entered into will not be breached. We cannot guarantee that any of the measures we have taken will prevent misappropriation of our technology.

Furthermore, the laws of some foreign countries may not protect our proprietary rights to the same extent as do the laws of the United States. The outcome of any actions taken in these foreign countries may be different than if such actions were determined under the laws of the United States. Although we are not dependent on any individual patents or group of patents for particular segments of the business for which we compete, if we are unable to protect our proprietary rights in a market, we may find ourselves at a competitive disadvantage to others who need not incur the substantial expense, time, and effort required to create innovative products that have enabled our success.

***We are subject to risks arising from our international operations, which may adversely affect our business, financial condition, and results of operations.***

We derive a substantial portion of our revenues from our international operations, and we plan to continue expanding our business in international markets. We conduct significant sales and customer support operations directly and indirectly through our distributors and value-added resellers in countries throughout the world and depend on the operations of our contract manufacturers and suppliers that are located outside of the United States. In addition, a portion of our R&D and our general and administrative operations are conducted outside the United States. In some countries, we may experience reduced intellectual property protection.

As a result of our international operations, we are affected by economic, business regulatory, social, and political conditions in foreign countries, including the following:

- changes in general IT spending,
- the imposition of government controls, inclusive of critical infrastructure protection;
- changes or limitations in trade protection laws or other regulatory requirements, which may affect our ability to import or export our products from various countries;
- laws that restrict sales of products developed or manufactured outside of the country;
- varying and potentially conflicting laws and regulations;
- fluctuations in local economies;
- wage inflation or a tightening of the labor market;
- tax policies that could have a business impact;
- import tariffs imposed by the United States and reciprocal tariffs imposed by foreign countries;
- data privacy rules and other regulations that affect cross border data flow; and
- the impact of the following on customer spending patterns: political considerations, unfavorable changes in tax treaties or laws, natural disasters, epidemic disease, labor unrest, earnings expatriation restrictions, misappropriation of intellectual property, military actions, acts of terrorism, political and social unrest and difficulties in staffing and managing international operations.

Any or all of these factors could have a material adverse impact on our business, financial condition, and results of operations.

In addition, the U.K.'s exit from the EU, commonly referred to as Brexit, has caused, and may continue to cause, uncertainty in the global markets. Brexit, if implemented, will take some period of time to complete and could result in regulatory changes that impact our business. For example, changes to the way service providers conduct business and transmit data between the U.K. and the EU could require us to make changes to the way we handle customer data. We will also review the impact of any resulting

changes to EU or U.K. law that could affect our operations, such as labor policies, financial planning, product manufacturing, and product distribution. Political and regulatory responses to the vote are still developing and we are in the process of assessing the impact the vote may have on our business as more information becomes available. Nevertheless, because we conduct business in the EU, including the U.K., any of the effects of Brexit, including those we cannot anticipate, could have a material adverse effect on our business, operating results, financial condition and cash flows.

There remains significant risk that the U.K. will exit from the EU on March 30, 2019, without agreement between the EU and U.K. on terms addressing customs and trade matters. If it occurs, this “Hard Brexit” scenario would mean, among other things, that as of March 30, 2019, U.K. Customs would have to clear a far greater daily volume of imports than it has ever had to before. If U.K. Customs is not able to handle such increased volume as of the end of March, significant delays in imports may very well result, thereby potentially producing a short-term material adverse effect on our business. Hard Brexit could result in further short-term uncertainty and currency volatility. Additional currency volatility could drive a weaker British pound, which increases the cost of goods imported into our U.K. operations and may decrease the profitability of our U.K. operations. A weaker British pound versus the U.S. dollar also causes local currency results of our U.K. operations to be translated into fewer U.S. dollars during a reporting period. Any adjustments we make to our business and operations as a result of Brexit could result in significant time and expense to complete. Our business is also impacted by the negotiation and implementation of free trade agreements between the United States and other nations. Such agreements can reduce barriers to international trade and thus the cost of conducting business overseas. For instance, the United States recently reached a new trilateral trade agreement with the Governments of Canada and Mexico to replace the North American Free Trade Agreement (NAFTA). If the United States withdraws from NAFTA and the three countries fail to approve the new agreement, known as the United States-Mexico-Canada Agreement (U.S.MCA), our cost of doing business within the three countries could increase.

Moreover, local laws and customs in many countries differ significantly from or conflict with those in the United States or in other countries in which we operate. In many foreign countries, it is common for others to engage in business practices that are prohibited by our internal policies and procedures or U.S. regulations applicable to us. There can be no assurance that our employees, contractors, channel partners, and agents will not take actions in violation of our policies and procedures, which are designed to ensure compliance with U.S. and foreign laws and policies. Violations of laws or key control policies by our employees, contractors, channel partners, or agents could result in termination of our relationship, financial reporting problems, fines, and/or penalties for us, or prohibition on the importation or exportation of our products, and could have a material adverse effect on our business, financial condition and results of operations.

***Our products are highly technical and if they contain undetected defects, errors or malware or do not meet customer quality expectations, our business could be adversely affected, and we may be subject to additional costs or lawsuits or be required to pay damages in connection with any alleged or actual failure of our products and services.***

Our products are highly technical and complex, are critical to the operation of many networks, and, in the case of our security products, provide and monitor network security and may protect valuable information. Our products have contained and may contain one or more undetected errors, defects, malware, or security vulnerabilities. These errors may arise from hardware or software we produce or procure from third parties. Some errors in our products may only be discovered after a product has been installed and used by end-customers.

Any errors, defects, malware or security vulnerabilities discovered in our products after commercial release could result in monetary penalties, negative publicity, loss of revenues or delay in revenue recognition, loss of customers, loss of future business and reputation, penalties, and increased service and warranty cost, any of which could adversely affect our business, financial condition, and results of operations. In addition, in the event an error, defect, malware, or vulnerability is attributable to a component supplied by a third-party vendor, we may not be able to recover from the vendor all of the costs of remediation that we may incur. In addition, we could face claims for product liability, tort, or breach of warranty or indemnification. Defending a lawsuit, regardless of its merit, is costly and may divert management’s attention. If our business liability insurance coverage is inadequate, or future coverage is unavailable on acceptable terms or at all, our financial condition and results of operations could be harmed. Moreover, if our products fail to satisfy our customers’ quality expectations for whatever reason, the perception of and the demand for our products could be adversely affected.

***We are exposed to fluctuations in currency exchange rates, which could negatively affect our financial condition and results of operations.***

Because a substantial portion of our business is conducted outside the United States, we face exposure to adverse movements in non-U.S. currency exchange rates. These exposures may change over time as business practices evolve and could have a material adverse impact on our financial condition and results of operations.

The majority of our revenues and expenses are transacted in U.S. Dollars. We also have some transactions that are denominated in foreign currencies, primarily the British Pound, Chinese Yuan, Euro, and Indian Rupee related to our sales and service operations outside of the United States. An increase in the value of the U.S. Dollar could increase the real cost to our customers of our products in those markets outside the United States in which we sell in U.S. Dollars. This could negatively affect our ability to meet our customers' pricing expectations in those markets and may result in erosion of gross margin and market share. A weakened U.S. Dollar could increase the cost of local operating expenses and procurement of raw materials to the extent we must purchase components in foreign currencies.

Currently, we hedge currency exposures associated with certain assets and liabilities denominated in nonfunctional currencies and periodically hedge anticipated foreign currency cash flows, with the aim of offsetting the impact of currency fluctuations on these exposures. However, hedge activities can be costly, and hedging cannot fully offset all risks, including long-term declines or appreciation in the value of the U.S. Dollar. If our attempts to hedge against these risks are not successful, or if long-term declines or appreciation in the value of the U.S. Dollar persist, our financial condition and results of operations could be adversely impacted.

***If we fail to adequately evolve our financial and managerial control and reporting systems and processes, our ability to manage and grow our business will be negatively affected.***

Our ability to successfully offer our products and implement our business plan in a rapidly evolving market requires an effective planning, forecasting, and management process to enable us to effectively scale and adjust our business and business models in response to fluctuating market opportunities and conditions. We will need to continue to improve our financial and managerial control and our reporting systems and procedures in order to manage our business effectively in the future. If we fail to effectively improve our systems and processes or we fail to monitor and ensure that these systems and processes are being used correctly, our ability to manage our business, financial condition, and results of operations may be negatively affected.

***If our products do not interoperate with our customers' networks, installations will be delayed or cancelled and could harm our business.***

Our products are designed to interface with our customers' existing networks, each of which have different specifications and utilize multiple protocol standards and products from other vendors. Many of our customers' networks contain multiple generations of products that have been added over time as these networks have grown and evolved. Our products must interoperate with many or all of the products within these networks as well as future products in order to meet our customers' requirements. If we find errors in the existing software or defects in the hardware used in our customers' networks, we may need to modify our software or hardware to fix or overcome these errors so that our products will interoperate and scale with the existing software and hardware, which could be costly and could negatively affect our business, financial condition, and results of operations. In addition, if our products do not interoperate with those of our customers' networks, demand for our products could be adversely affected or orders for our products could be cancelled. This could hurt our operating results, damage our reputation, and seriously harm our business and prospects.

***Our products incorporate and rely upon licensed third-party technology, and if licenses of third-party technology do not continue to be available to us or are not available on terms acceptable to us, our revenues and ability to develop and introduce new products could be adversely affected.***

We integrate licensed third-party technology into certain of our products. From time to time, we may be required to renegotiate our current third-party licenses or license additional technology from third-parties to develop new products or product enhancements or to facilitate new business models. Third-party licenses may not be available or continue to be available to us on commercially reasonable terms. The failure to comply with the terms of any license, including free open source software, may result in our inability to continue to use such license. Some of our agreements with our licensors may be terminated for convenience by them. In addition, we cannot be certain that our licensors are not infringing the intellectual property rights of third parties or that our licensors have sufficient rights to the licensed intellectual property in all jurisdictions in which we may sell our products. Third-party technology we incorporate into our products that is deemed to infringe on the intellectual property of others may result, and in some cases has resulted, in limitations on our ability to source technology from those third parties, restrictions on our ability to sell products that incorporate the infringing technology, increased exposure to liability that we will be held responsible for incorporating the infringing technology in our products and increased costs involved in removing that technology from our products or developing substitute technology. Our inability to maintain or re-license any third-party licenses required in our products or our inability to obtain third-party licenses necessary to develop new products and product enhancements, could require us, if possible, to develop substitute technology or obtain substitute technology of lower quality or performance standards or at a greater cost, any of which could delay or prevent product shipment and harm our business, financial condition, and results of operations.



***We rely on the availability and performance of information technology services provided by third parties, including IBM which will manage a significant portion of our systems.***

Under the terms of our recent Master Services Agreement and certain Statements of Work, following a transition period, IBM will provide us with a broad range of information technology services, such as applications, including support, development and maintenance; infrastructure management and support, including for servers storage and network devices; and end user support including service desk. We expect that our businesses will become dependent on the services provided and systems operated for us by IBM and its third-party providers. While we believe that we conducted appropriate due diligence before entering into this agreement, the failure of one or more of these entities to meet our performance standards and expectations, including with respect to data security, may have a material adverse effect on our business, results of operations or financial condition.

Our success is dependent on our ability to maintain effective relationships with IBM and other third-party technology and service providers as well as the ability of IBM and any other third-party providers to perform as expected. We may terminate our agreement with IBM and any and all Statements of Work at any time on short notice for cause, convenience, certain specific performance failures, a breach of warranties by IBM, failure to transition, failure to transform, changes in law, force majeure, or a change in the control of either IBM or us. Depending on the type and timing of a termination, we may be required to pay certain termination amounts to IBM. IBM's only right to terminate the agreement is based on our failure to comply with certain terms applying to disputed payments.

Our ability to realize the expected benefits of this arrangement is subject to various risks, some of which are not within our complete control. These risks include, but are not limited to, disruption in services and the failure to protect the security and integrity of the Company's data under the terms of the agreement. We are unable to provide assurances that some or all of these risks will not occur. Failure to effectively mitigate these risks, if they occur, could have a material adverse effect on our operations and financial results. In addition, we could face significant additional costs or business disruption if our arrangement with IBM is terminated or impaired and we cannot find alternative IT services or support on commercially reasonable terms or on a timely basis or if we are unable to hire new employees in order to return these services in-house.

***We are required to evaluate the effectiveness of our internal control over financial reporting and publicly disclose material weaknesses in our controls. Any adverse results from such evaluation may adversely affect investor perception, and our stock price.***

Section 404 of the Sarbanes-Oxley Act of 2002 requires our management to assess the effectiveness of our internal control over financial reporting and to disclose in our filing if such controls were unable to provide assurance that a material error would be prevented or detected in a timely manner. We have an ongoing program to review the design of our internal controls framework in keeping with changes in business needs, implement necessary changes to our controls design and test the system and process controls necessary to comply with these requirements. If in the future, our internal controls over financial reporting are determined to be not effective resulting in a material weakness or significant deficiency, investor perceptions regarding the reliability of our financial statements may be adversely affected which could cause a decline in the market price of our stock and otherwise negatively affect our liquidity and financial condition.

***Failure to maintain our credit ratings could adversely affect our cost of funds and related margins, liquidity, competitive position and access to capital markets.***

The major credit rating agencies routinely evaluate our indebtedness. This evaluation is based on a number of factors, which include financial strength as well as transparency with rating agencies and timeliness of financial reporting. There can be no assurance that we will be able to maintain our credit ratings and failure to do so could adversely affect our cost of funds and related margins, liquidity, competitive position and access to capital markets.

***We may be unable to generate the cash flow to satisfy our expenses, make anticipated capital expenditures or service our debt obligations, including the Notes and the Revolving Credit Facility.***

As of December 31, 2018, we have issued \$2,150.0 million in aggregate principal amount of senior notes, which we refer to collectively as the Notes, and had \$2,139.0 million in total outstanding debt, including \$350 million of senior notes that mature in February 2019. In June 2014, we entered into a Credit Agreement with certain institutional lenders that provides for a five-year \$500.0 million unsecured revolving credit facility, which we refer to as the Revolving Credit Facility, with an option to increase the Revolving Credit Facility by up to an additional \$200.0 million. The Credit Agreement will terminate in June 2019, at which point all amounts borrowed must be repaid. As of December 31, 2018, no amounts were outstanding under the Credit Agreement.

We may not be able to generate sufficient cash flow to enable us to satisfy our expenses, make anticipated capital expenditures or service our indebtedness, including the Notes and the Revolving Credit Facility (if drawn upon). Our ability to pay our expenses, satisfy our debt obligations, refinance our debt obligations and fund planned capital expenditures will depend on our future performance, which will be affected by general economic, financial, competitive, legislative, regulatory and other factors beyond our control. Based upon current levels of operations, we believe cash flow from operations and available cash will be adequate for at least the next twelve months to meet our anticipated requirements for working capital, capital expenditures and scheduled payments of principal and interest on our indebtedness, including the Notes and the Revolving Credit Facility (if drawn upon). However, if we are unable to generate sufficient cash flow from operations or to borrow sufficient funds in the future to service our debt, we may be required to sell assets, reduce capital expenditures, refinance all or a portion of our existing debt (including the Notes) or obtain additional financing. There is no assurance that we will be able to refinance our debt, sell assets or borrow more money on terms acceptable to us, or at all.

The indentures that govern the Notes contain various covenants that limit our ability and the ability of our subsidiaries to, among other things:

- incur liens;
- incur sale and leaseback transactions; and
- consolidate or merge with or into, or sell substantially all of our assets to, another person.

The Credit Agreement contains two financial covenants along with customary affirmative and negative covenants that include the following:

- maintenance of a leverage ratio no greater than 3.0x and an interest coverage ratio no less than 3.0x
- covenants that limit or restrict the ability of the Company and its subsidiaries to, among other things, grant liens, merge or consolidate, dispose of all or substantially all of its assets, change their accounting or reporting policies, change their business and incur subsidiary indebtedness, in each case subject to customary exceptions for a credit facility of this size and type.

As a result of these covenants, we are limited in the manner in which we can conduct our business, and we may be unable to engage in favorable business activities or finance future operations or capital needs. Accordingly, these restrictions may limit our ability to successfully operate our business. A failure to comply with these restrictions could lead to an event of default, which could result in an acceleration of the indebtedness. Our future operating results may not be sufficient to enable compliance with these covenants to remedy any such default. In addition, in the event of an acceleration, we may not have or be able to obtain sufficient funds to make any accelerated payments, including those under the Notes, and the Revolving Credit Facility (if drawn upon).

In addition, certain changes under the Tax Act may result in limitations on the deductibility of our net business interest expenses. The Tax Act generally limits the annual deduction for net business interest expense to an amount equal to 30% of adjusted taxable income. As a result, if our taxable income were to decline, we may not be able to fully deduct our net interest expense. These changes, among others under the Tax Act, could result in increases to our future U.S. tax expenses, which could have a material impact on our business.

***A portion of the transaction consideration we received from the divestiture of our Junos Pulse product portfolio is in the form of a non-contingent seller promissory note and we may not receive the amount owed to us (including accrued interest), including in the time frame contemplated, by the buyer under the note.***

In the fourth quarter of fiscal 2014, we completed the sale of our Junos Pulse product portfolio to an affiliate of Siris Capital, a private equity firm, for total consideration of \$230.7 million, of which \$125.0 million was in the form of an 18-month non-contingent interest-bearing promissory note issued to the Company. On May 1, 2017, we received a principal payment in the amount of \$75.0 million and outstanding interest on the note, and we and the issuer agreed to further amend the terms of the note with respect to the remaining approximately \$58.0 million to, among other things, extend the maturity date from December 31, 2018 to September 30, 2022, provide that interest due can be paid in kind by increasing the outstanding principal amount of the note and subordinate the note to other debt issued by senior lenders. Since a portion of the transaction consideration is in the form of a non-contingent seller promissory note and the note is subordinated to debt issued by senior lenders, there is the risk that we may not receive the amount owed to us (including accrued interest), including in the time frame contemplated, under the note. In the event that the promissory note is not repaid on the terms we contemplate, any collection or restructuring efforts we undertake

may be costly and require significant time and attention from our management and there is no guarantee that we will be able to recover the amounts owed to us in full.

***Our failure to pay quarterly dividends to our stockholders or the failure to meet our commitments to return capital to our stockholders could have a material adverse effect on our stock price.***

Our ability to pay quarterly dividends or achieve our intended capital return policy will be subject to, among other things, our financial position and results of operations, available cash and cash flow, capital and debt service requirements, use of cash for acquisitions and other factors. Any failure to pay or increase future dividends as announced, or a reduction or discontinuation of quarterly dividends could have a material adverse effect on our stock price.

In November 2018, we announced that for 2019, we intend to target a capital return policy, inclusive of share repurchases and dividends, of approximately 75% of annual free cash flow. Free cash flow is calculated as net cash provided by operating activities less capital expenditures. In January 2018, we announced that our Board of Directors approved a new \$2.0 billion buyback authorization, which replaced our prior authorization. In February 2018, as a part of our new buyback authorization, we entered into a \$750.0 million accelerated share repurchase program, or ASR, which was completed in the third quarter of 2018, and our Board of Directors declared an increase to our quarterly cash dividend to \$0.18 per share, which reflects an increase of 80% compared to previous quarterly dividends. In January 2019, our Board of Directors declared an increase to our quarterly cash dividend to \$0.19 per share. Any failure to meet our commitments to return capital to our stockholders could have a material adverse effect on our stock price.

***The investment of our cash balance and our investments in government and corporate debt securities and equity securities are subject to risks, which may cause losses and affect the liquidity of these investments.***

At December 31, 2018, we had \$2,489.0 million in cash and cash equivalents and \$1,269.1 million in short-and long-term investments. We have invested these amounts primarily in asset-backed securities, certificates of deposit, commercial paper, corporate debt securities, foreign government debt securities, money market funds, mutual funds, time deposits, U.S. government agency securities, and U.S. government securities. We also have \$90.4 million in other long-term assets for our investments in privately-held companies. Certain of our investments are subject to general credit, liquidity, market, sovereign debt, and interest rate risks. Our future investment income may fall short of expectations due to changes in interest rates or if the decline in fair value of our publicly traded debt or equity investments is judged to be other-than-temporary. These market risks associated with our investment portfolio may have a material adverse effect on our liquidity, financial condition, and results of operations.

***Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.***

Our amended and restated bylaws provide that, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or if the Court of Chancery does not have jurisdiction, the U.S. District Court for the District of Delaware) is the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of fiduciary duty owed by any of our current or former directors, officers, or other employees to us or to our stockholders; (iii) any action asserting a claim arising pursuant to the Delaware General Corporation Law, our restated certificate of incorporation, or our bylaws; (iv) any action or proceeding asserting a claim as to which Delaware General Corporation Law confers jurisdiction on the Court of Chancery or (v) any action asserting a claim governed by the internal affairs doctrine. The exclusive forum provisions in our bylaws may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our current or former directors, officers, or other employees, which may discourage such lawsuits against us and our current or former directors, officers, and other employees. Alternatively, if a court were to find the exclusive forum provisions contained in our bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could have a material and adverse impact on our business.

***Uninsured losses could harm our operating results.***

We self-insure against many business risks and expenses, such as intellectual property litigation, cybersecurity and our medical benefit programs, where we believe we can adequately self-insure against the anticipated exposure and risk or where insurance is either not deemed cost-effective or is not available. We also maintain a program of insurance coverage for various types of property, casualty, and other risks. We place our insurance coverage with various carriers in numerous jurisdictions. The types and amounts of insurance that we obtain vary from time to time and from location to location, depending on availability, cost, and our decisions with respect to risk retention. The policies are subject to deductibles, policy limits, and exclusions that result in our retention of a level of risk on a self-insurance basis. In addition, our insurance coverage may not be adequate to compensate us

for all losses or failures that may occur. Losses not covered by insurance could be substantial and unpredictable and could adversely affect our financial condition and results of operations.

***Our stock price may fluctuate.***

Historically, our common stock has experienced substantial price volatility, particularly as a result of variations between our actual financial results and the published expectations of analysts and as a result of announcements by our competitors and us. Furthermore, speculation in the press or investment community about our strategic position, financial condition, results of operations, business, security of our products, or significant transactions can cause changes in our stock price. In addition, the stock market has experienced extreme price and volume fluctuations that have affected the market price of many technology companies in particular and that have often been unrelated to the operating performance of these companies. From time to time, economic weakness has contributed to extreme price and volume fluctuations in global stock markets that have also reduced the market price of many technology company stocks, including ours. These factors, as well as general economic and political conditions and the announcement of proposed and completed acquisitions or other significant transactions, or any difficulties associated with such transactions, by us or our current or potential competitors, may materially adversely affect the market price of our common stock in the future.

**ITEM 1B. *Unresolved Staff Comments***

Not applicable.

**ITEM 2. *Properties***

Our corporate headquarters are located on 80 acres of owned land in Sunnyvale, California and includes approximately 0.7 million square feet of owned buildings. In addition to our owned facilities, we lease approximately 0.1 million square feet in buildings in Sunnyvale, California as part of our corporate headquarters as of December 31, 2018 .

In addition to our leased buildings in Sunnyvale, we also lease space (including offices and other facilities) in various locations throughout the United States, Canada, South America, EMEA, and APAC regions, including offices in Australia, China, Hong Kong, India, Ireland, Israel, Japan, the Netherlands, Russia, United Arab Emirates, and the United Kingdom. As of December 31, 2018 , we leased approximately 1.6 million square feet worldwide, with approximately 31% in North America. The respective operating leases expire at various times through November 2029 . In addition, in July 2015 we entered into a lease arrangement through March 2026 for approximately 63,000 square feet of space in the State of Washington. Each leased facility is subject to an individual lease or sublease, which could provide various options to renew/terminate the agreement or to expand/contract the leased space. We believe that our current offices and other facilities are in good condition and appropriately support our current business needs. We may improve, replace or reduce facilities as considered appropriate to meet the needs of our operations.

For additional information regarding obligations under our leases, see Note 16, *Commitments and Contingencies* , in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report. For additional information regarding properties by geographic region, see Note 13, *Segments* , in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report.

**ITEM 3. *Legal Proceedings***

The information set forth under the heading “Legal Proceedings” in Note 16, *Commitments and Contingencies* , in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, is incorporated herein by reference.

**ITEM 4. *Mine Safety Disclosures***

Not applicable.

## PART II

### ITEM 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

#### **Market Information**

The principal market in which our common stock is traded is the New York Stock Exchange, or NYSE, under the symbol JNPR.

#### **Stockholders**

As of February 15, 2019, there were 742 stockholders of record of our common stock and we believe a substantially greater number of beneficial owners who hold shares through brokers, banks or other nominees.

#### **Dividends**

We paid cash dividends of \$0.18 per share each quarter, totaling \$249.3 million during the year ended December 31, 2018. In January 2019, we declared a quarterly cash dividend of \$0.19 per share of common stock to be paid on March 22, 2019 to stockholders of record as of the close of business on March 1, 2019. The declaration and amount of any future cash dividends are at the discretion of the Board of Directors and will depend on our financial performance, economic outlook, and any other relevant considerations.

#### **Unregistered Securities Issued**

On December 6, 2018, we issued 105,317 shares of our common stock as consideration to an individual in connection with the 2016 AppFormix acquisition.

On December 7, 2018, we issued 56,692 shares of our common stock as consideration to one individual in connection with the HTBase acquisition in the fourth quarter of 2018.

The issuance of the above securities was exempt from registration under the Securities Act of 1933, as amended (the "Securities Act"), in reliance upon Section 4(a)(2) of the Securities Act as transactions by an issuer not involving any public offering and/or the private offering safe harbor provision of Rule 506 of Regulation D promulgated under the Securities Act.

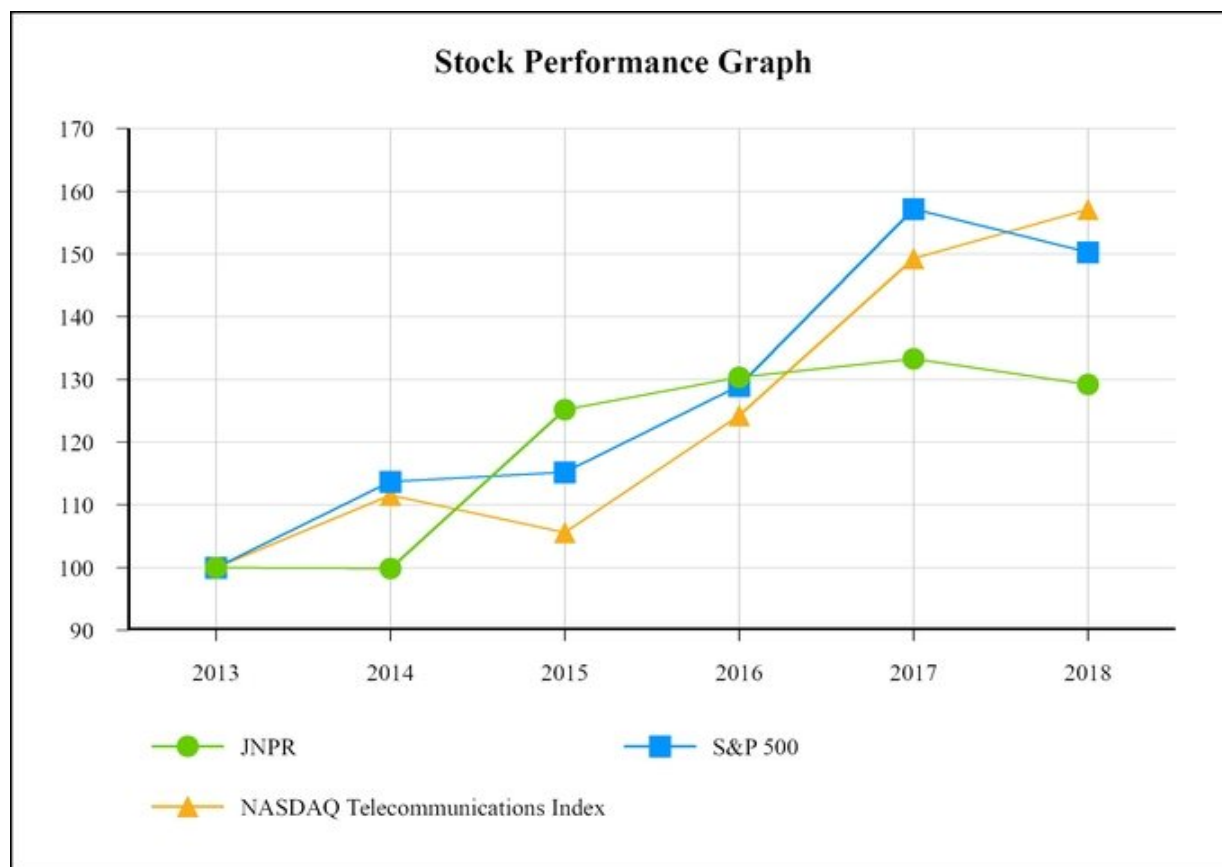
#### **Purchases of Equity Securities by the Issuer and Affiliated Purchasers**

During the three months ended December 31, 2018, there were no share repurchases under our Board approved 2018 Stock Repurchase Program, which authorized us to purchase an aggregate of up to \$2.0 billion of our common stock. Future share repurchases will be subject to a review of the circumstances in place at that time and will be made from time to time in private transactions or open market purchases as permitted by securities laws and other legal requirements, including Rule 10b-18 promulgated under the Exchange Act. This program may be discontinued at any time.

**Company Stock Performance**

The information contained in this Company Stock Performance section shall not be deemed to be incorporated by reference into other U.S. Securities and Exchange Commission, or SEC, filings; nor deemed to be soliciting material or filed with the Commission or subject to Regulation 14A or 14C or subject to Section 18 of the Exchange Act. The comparisons in the performance graph below are based upon historical data and are not indicative of, or intended to forecast, future performance of our common stock.

The performance graph below shows the cumulative total stockholder return over a five-year period assuming the investment of \$100 on December 31, 2013, in each of Juniper Networks' common stock, the Standard & Poor's 500 Stock Index ("S&P 500"), and the NASDAQ Telecommunications Index. Total stockholder return assumes reinvestment of all dividends.



	As of December 31,					
	2013	2014	2015	2016	2017	2018
JNPR	\$ 100.00	\$ 99.77	\$ 125.22	\$ 130.34	\$ 133.31	\$ 129.24
S&P 500	\$ 100.00	\$ 113.68	\$ 115.24	\$ 129.02	\$ 157.17	\$ 150.27
NASDAQ Telecommunications Index	\$ 100.00	\$ 111.51	\$ 105.60	\$ 124.17	\$ 149.28	\$ 157.14

**ITEM 6. Selected Financial Data**

The following selected consolidated financial data is derived from our audited Consolidated Financial Statements. As our operating results are not necessarily indicative of future operating results, this data should be read in conjunction with Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, and the Consolidated Financial Statements and the notes thereto in Item 8, *Financial Statements and Supplementary Data*, of this Report, which are incorporated herein by reference.

The information presented below reflects the impact of certain significant transactions and the adoption of certain accounting pronouncements, which makes a direct comparison difficult between each of the last five fiscal years. For a complete description of matters affecting the results in the tables below during the three years ended December 31, 2018, see *Notes to Consolidated Financial Statements* in Item 8 of Part II of this Report.

**Consolidated Statements of Operations Data**

	Years Ended December 31,				
	2018 <sup>(1)</sup>	2017 <sup>(2)</sup>	2016	2015	2014 <sup>(3)</sup>
	(In millions)				
Net revenues	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1	\$ 4,857.8	\$ 4,627.1
Gross margin	2,741.2	3,072.1	3,104.5	3,078.6	2,858.2
Operating income (loss)	572.2	848.1	889.7	912.0	(419.7)
Net income (loss)	\$ 566.9	\$ 306.2	\$ 592.7	\$ 633.7	\$ (334.3)

<sup>(1)</sup> Fiscal year 2018 includes a tax benefit of \$133.0 million related to a lapse in the statute of limitations and tax accounting method changes related to deferred revenue.

<sup>(2)</sup> Fiscal year 2017 includes an estimated \$289.5 million of tax expense related to the U.S. Tax Cuts and Jobs Act, and pre-tax restructuring charges of \$65.6 million.

<sup>(3)</sup> Fiscal year 2014 includes the following significant pre-tax items: impairment of goodwill of \$850.0 million; restructuring and other charges of \$208.5 million; gain on the sale of equity investments of \$163.0 million; gain, net of legal fees in connection with the litigation settlement with Palo Alto Networks of \$196.1 million; and gain on the sale of Junos Pulse of \$19.6 million.

**Per Common Share Data**

	Years Ended December 31,				
	2018	2017	2016	2015	2014
Net income (loss) per share:					
Basic	\$ 1.62	\$ 0.81	\$ 1.55	\$ 1.62	\$ (0.73)
Diluted	\$ 1.60	\$ 0.80	\$ 1.53	\$ 1.59	\$ (0.73)
Cash dividends declared per share of common stock	\$ 0.72	\$ 0.40	\$ 0.40	\$ 0.40	\$ 0.20

**Consolidated Balance Sheet Data**

	As of December 31,				
	2018	2017	2016	2015	2014
	(In millions)				
Cash, cash equivalents, and investments	\$ 3,758.1	\$ 4,021.0	\$ 3,657.3	\$ 3,192.2	\$ 3,104.9
Working capital	2,739.3	2,446.3	2,236.0	1,110.5	1,297.2
Goodwill	3,108.8	3,096.2	3,081.7	2,981.3	2,981.5
Total assets <sup>(1)</sup>	9,363.3	9,833.8	9,656.5	8,607.9	8,273.6
Total debt <sup>(1)</sup>	2,139.0	2,136.3	2,133.7	1,937.4	1,341.2
Total long-term liabilities (excluding long-term debt) <sup>(2)</sup>	908.5	1,278.4	824.4	594.1	499.9
Total stockholders' equity <sup>(3)(4)</sup>	\$ 4,823.2	\$ 4,680.9	\$ 4,962.5	\$ 4,574.4	\$ 4,919.1

<sup>(1)</sup> Fiscal year 2016 includes the adoption of Accounting Standards Update ("ASU") No. 2015-03 (Subtopic 835-30) - *Simplifying the Presentation of Debt Issuance Costs*, requiring that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. Other long-term assets and long-term debt in the prior years were retrospectively adjusted to conform to the required presentation.

<sup>(2)</sup> Fiscal 2017 includes an estimated \$394.0 million recorded in long-term income taxes payable related to the one-time transition tax as a result of the Tax Cuts and Jobs Act.

<sup>(3)</sup> Fiscal year 2017 includes the adoption of ASU No. 2016-09 (Topic 718) *Compensation—Stock Compensation: Improvements to Employee Share-Based Payment Accounting*, which simplified several aspects of the accounting for share-based payment transactions, including the accounting for forfeitures, among other things. We elected to account for forfeitures as they occur using a modified retrospective transition method, rather than estimating forfeitures, resulting in a cumulative-effect adjustment of \$9.0 million, which increased the January 1, 2017 opening accumulated deficit balance on the Consolidated Balance Sheets.

<sup>(4)</sup> Fiscal 2018 includes the adoption of ASU No. 2014-09 (Topic 606) *Revenue from Contracts with Customers*, which provides guidance for revenue recognition that superseded the revenue recognition requirements in Accounting Standards Codification Topic 605, *Revenue Recognition* and most industry specific guidance. We adopted the standard under the modified retrospective approach, applying the amendments to prospective reporting periods. Upon adoption, we recorded a cumulative effect adjustment of \$324.7 million, which decreased the January 1, 2018 opening accumulated deficit balance on the Consolidated Balance Sheet primarily due to the application of the new guidance in the areas of distributor sales, software revenue, variable consideration, revenue allocation, and contract acquisition costs.



## **ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**

*The following discussion should be read with the Consolidated Financial Statements and the related notes in Item 8 of Part II of this Report.*

The following discussion is based upon our Consolidated Financial Statements included elsewhere in this Report, which have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. In the course of operating our business, we routinely make decisions as to the timing of the payment of invoices, the collection of receivables, the manufacturing and shipment of products, the fulfillment of orders, the purchase of supplies, and the building of inventory and spare parts, among other matters. In making these decisions, we consider various factors including contractual obligations, customer satisfaction, competition, internal and external financial targets and expectations, and financial planning objectives. Each of these decisions has some impact on the financial results for any given period. For further information about our critical accounting policies and estimates, see "Critical Accounting Policies and Estimates" section included in this "Management's Discussion and Analysis of Financial Condition and Results of Operations."

To aid in understanding our operating results for the periods covered by this Report, we have provided an executive overview, which includes a summary of our business and market environment along with a financial results and key performance metrics overview. These sections should be read in conjunction with the more detailed discussion and analysis of our consolidated financial condition and results of operations in this Item 7, our "Risk Factors" section included in Item 1A of Part I, and our Consolidated Financial Statements and notes thereto included in Item 8 of Part II of this Report.

### **Executive Overview**

#### ***Business and Market Environment***

Juniper designs, develops, and sells products and services for high-performance networks to enable customers to build scalable, reliable, secure and cost-effective networks for their businesses, while achieving agility and improved operating efficiency through automation.

Our products are sold in three geographic regions: Americas; Europe, Middle East and Africa, or EMEA; and Asia Pacific, or APAC. We sell our high-performance network products and service offerings across routing, switching, and security technologies. In addition to our products, we offer our customers services, including maintenance and support, professional services, and education and training programs. Our products and services address high-performance network requirements for our customers within our verticals: Cloud, Service Provider, and Enterprise who view their network as critical to their success. We believe our silicon, systems, and software represent innovations that transform the economics and experience of networking, helping our customers achieve superior performance, greater choice, and flexibility, while reducing overall total cost of ownership.

Further, our intent is to expand our software business by introducing new software solutions to our product portfolio that simplify the operation of networks, and allow our customers across our key verticals flexibility in consumption and deployment. We believe our software revenues as a percentage of total revenues will increase over time as we introduce new software product offerings and business models designed to better monetize the value of our software offerings.

We believe the network needs for our customers in our Cloud, Service Provider, and Enterprise verticals are converging, as these customers recognize the need for high performance networks and are adopting cloud architectures for their infrastructure and service delivery, such as large public and private data centers and service provider edge data centers, for improved agility and greater levels of operating efficiency.

In 2018, we continued to experience weakness within our Cloud and Service provider verticals. In our Cloud vertical, certain large Cloud customers were transitioning their network architecture as they continued to add capacity. This resulted in these customers transitioning from purchasing our MX product family to our PTX product family which contributed to the decline in our net revenues as the PTX product family has a lower average selling price compared to the MX product family. We believe the MX to PTX transition is largely behind us; however, the pace of deployments in a portion of our Cloud customer's networks has been slower than expected. Nevertheless, we are focused on the Cloud vertical as well as the transition to 400-gig Ethernet, or 400G, which we believe will present further opportunities for Juniper across our portfolio as our Cloud customers value high-performance, highly compact, power efficient infrastructures, which we support and continue to develop.

In our Service Provider vertical, changes in business models and the increase in industry consolidation, such as acquisitions, mergers, and partnerships may continue to impact Service Provider investment and the build-out of their networks in the near-term, however, we believe that our Service Provider customers will need to invest in the build-out of high performance networks and the transformation of existing legacy infrastructure to distributed cloud environments. We are committed to this transformation, which we refer to as the Telco Cloud transformation, as our Service Provider customers rearchitect their infrastructure to enable, among other things, next generation mobile network build-outs, or 5G. We are well positioned to capitalize on 5G carrier deployments with the refresh of our MX 5G product and Conrail solutions as well as our new partnership with Ericsson to accelerate 5G initiatives by leveraging each company's complementary portfolios to drive our competitive advantage in the marketplace. We believe these products and partnership position Juniper for improved Service Provider spending in late 2019.

We remain confident in our strategy and we are executing against our innovation roadmap, as each of our industry verticals transitions to cloud architectures. We believe our understanding of high-performance networking technology and cloud architecture, and our strategy, position us to capitalize on the industry transition to more automated, cost-efficient, scalable networks.

In 2018, we continued to execute on our product and solutions strategy and announced several new innovations, including a new 400G optimized routing platform; a new high-performance MX Series 5G Universal Routing Platform with new programmable silicon; an upgrade to our high-end SRX firewall offering with our SPC3 Advanced Security Acceleration line card; and our multi-cloud orchestration and telemetry platform including Conrail Edge Cloud and Conrail Enterprise Multicloud, each of which, we believe, will help strengthen our position across our core markets. We also announced new initiatives under an existing partnership with Nutanix, which we expect will help strengthen our ability to capitalize on multicloud with our Conrail Enterprise Multicloud integration with Nutanix's application programming interface, or APIs to provide enhanced network visibility.

In late 2018, we completed the acquisition of HTBase, a software company that has developed a unique and disruptive platform for software-defined enterprise multicloud, which we expect will accelerate our leadership in multicloud and function with the compute orchestration capabilities of Conrail Enterprise Multicloud. We will continue to look at targeted and strategic acquisitions that we believe can complement our portfolio, operations, R&D strategy, and overall business.

In 2019, we believe we will continue to experience weakness with our Cloud customers in the near-term, as deployment cycles remain difficult to predict; however, we remain confident in our competitive position with our strategic Cloud customers. We are taking a number of actions that we believe will help Juniper achieve year-over-year revenue growth at some point in the second half of 2019 such as: (1) new product offerings which include new MX line cards to capitalize on 5G carrier initiatives; 400G platforms to capture data center footprint; and new enhancements to our Conrail Enterprise Multicloud platform that make it simpler and more cost effective, (2) transitioning our sales organization to better align with our sales strategy, and (3) monetizing our software offerings through subscriptions. Further, we believe the 400G upgrade cycle, 5G deployments, and enterprise multicloud initiatives each represent large opportunities where we are well positioned to benefit over the next several years.

### Financial Results and Key Performance Metrics Overview

On January 1, 2018, we adopted Financial Accounting Standards Board, or FASB, Accounting Standards Update, or ASU, No. 2014-09 (Topic 606) - *Revenue from Contracts with Customers*, which we refer to as Topic 606. The standard provides guidance for revenue recognition that superseded the revenue recognition requirements in Accounting Standards Codification Topic 605, *Revenue Recognition*, which we refer to as Topic 605, and most industry specific guidance. See Note 2, *Significant Accounting Policies*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further discussion on the adoption of Topic 606. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with the historic accounting under Topic 605.

The following table provides an overview of our financial results and key financial metrics (in millions, except per share amounts, percentages, and days sales outstanding, or DSO):

	As of and for the Years Ended December 31,						
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016	
				\$ Change	% Change	\$ Change	% Change
Net revenues	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1	\$ (379.7)	(8)%	\$ 37.1	1 %
Gross margin	\$ 2,741.2	\$ 3,072.1	\$ 3,104.5	\$ (330.9)	(11)%	\$ (32.4)	(1)%
<i>Percentage of net revenues</i>	<i>59.0%</i>	<i>61.1%</i>	<i>62.2%</i>				
Operating income	\$ 572.2	\$ 848.1	\$ 889.7	\$ (275.9)	(33)%	\$ (41.6)	(5)%
<i>Percentage of net revenues</i>	<i>12.3%</i>	<i>16.9%</i>	<i>17.8%</i>				
Net income	\$ 566.9	\$ 306.2	\$ 592.7	\$ 260.7	85 %	\$ (286.5)	(48)%
<i>Percentage of net revenues</i>	<i>12.2%</i>	<i>6.1%</i>	<i>11.9%</i>				
Net income per share							
Basic	\$ 1.62	\$ 0.81	\$ 1.55	\$ 0.81	100 %	\$ (0.74)	(48)%
Diluted	\$ 1.60	\$ 0.80	\$ 1.53	\$ 0.80	100 %	\$ (0.73)	(48)%
Operating cash flows	\$ 861.1	\$ 1,259.3	\$ 1,126.6	\$ (398.2)	(32)%	\$ 132.7	12 %
Stock repurchase plan activity	\$ 750.0	\$ 719.7	\$ 312.9	\$ 30.3	4 %	\$ 406.8	130 %
Cash dividends declared per common stock	\$ 0.72	\$ 0.40	\$ 0.40	\$ 0.32	80 %	\$ —	— %
DSO (*)	58	62	68	(4)	(6)%	(6)	(9)%
Deferred revenue	\$ 1,213.6	\$ 1,539.3	\$ 1,481.1	\$ (325.7)	(21)%	\$ 58.2	4 %
Product deferred revenue	\$ 144.4	\$ 334.2	\$ 322.9	\$ (189.8)	(57)%	\$ 11.3	3 %
Service deferred revenue	\$ 1,069.2	\$ 1,205.1	\$ 1,158.2	\$ (135.9)	(11)%	\$ 46.9	4 %

(\*) DSO is for the fourth quarter ended December 31, 2018 , 2017 and 2016 .

- *Net Revenues*: During 2018 , net revenues decreased compared to 2017 , primarily due to lower routing product revenues from our Cloud and Service Provider verticals in the Americas. We experienced ongoing networking architectural transitions and a slower than expected pace of deployments for certain large Cloud customers as well as a decline in our Service Provider business due to the timing of deployments. The year-over-year decline in product net revenues was partially offset by broad-based revenue growth in our Enterprise vertical. Excluding the impact of Topic 606, our service net revenues would have increased during the 2018 , compared to 2017, primarily due to strong renewal and attach rates of support contracts. Of our top ten customers for 2018 , five were Cloud, four were Service Provider, and one was an Enterprise.

During 2018, the adoption of Topic 606 resulted in a decrease in revenue recognition of \$22.6 million due to lower service revenues, partially offset by higher product revenues. Service revenues during 2018 were lower by \$122.9 million under Topic 606, compared to Topic 605, primarily due to the impact of revenue allocation between products and services. Product revenues during 2018 were higher by \$100.3 million under Topic 606, compared to Topic 605, primarily due to the impact of revenue allocation between products and services and the timing of revenue recognition of certain contracts that were precluded by Topic 605, partially offset by variable consideration. The product revenues increase from Topic 606 was primarily allocated between routing and switching.

- *Gross Margin*: Our gross margin as a percentage of net revenues decreased during 2018, compared to 2017, primarily due to lower net revenues and product mix, resulting from the year-over-year decline in routing revenues from our Cloud and Service Provider verticals, and to a lesser extent, the impact of Topic 606, partially offset by improvements in our cost structure.
- *Operating Margin*: During 2018, compared to 2017, operating income as a percentage of net revenues decreased primarily due to the drivers described in the gross margin discussion above, partially offset by a net decrease in our operating expenses during 2018, compared to 2017, as a result of lower restructuring charges.
- *Net Income*: During 2018, net income increased compared to 2017, primarily driven by a lower statutory tax rate due to the Tax Act and tax benefits related to items unique to 2018. See Note 14, *Income Taxes*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, for further discussion.
- *Operating Cash Flows*: Net cash provided by operations decreased in 2018, compared to 2017, primarily due to higher cash collections from customers during 2017 related to service renewals invoiced during the fourth quarter of 2016, partially offset by a decline in cash paid for personnel-related costs, principally as a result of a reduction in headcount and lower incentive compensation, and a decrease in payments to suppliers.
- *Capital Return*: In 2018, we repurchased 29.3 million shares of our common stock for an aggregate amount of \$750.0 million through the completion of a \$750.0 million accelerated share repurchase program, or ASR. During 2018, we also paid a quarterly cash dividend of \$0.18 per share, for an aggregate amount of \$249.3 million.
- *DSO*: DSO is calculated as the ratio of ending accounts receivable, net of allowances, divided by net revenues for the preceding 90 days. DSO for the quarter ended December 31, 2018 decreased, compared to the quarter ended December 31, 2017, primarily due to lower overall invoicing volume, partially offset by lower revenues.
- *Deferred Revenue*: Total deferred revenue decreased as of December 31, 2018, compared to December 31, 2017, due to the impact of adoption of Topic 606. See Note 2, *Significant Accounting Policies*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, for further discussion.

### **Critical Accounting Policies and Estimates**

The preparation of the financial statements and related disclosures in conformity with U.S. GAAP requires us to make judgments, assumptions, and estimates that affect the amounts reported in the Consolidated Financial Statements and the accompanying notes. On an ongoing basis, we evaluate our estimates, including those related to sales returns, pricing credits, warranty costs, allowance for doubtful accounts, impairment of long-term assets, especially goodwill and intangible assets, contract manufacturer liabilities, assumptions used in the valuation of share-based compensation, and litigation. We base our estimates and assumptions on current facts, historical experience, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. For further information about our significant accounting policies, see Note 2, *Significant Accounting Policies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, which describes the significant accounting policies and methods used in the preparation of the Consolidated Financial Statements. The accounting policies described below are significantly affected by critical accounting estimates. Such accounting policies require significant judgments, assumptions, and estimates used in the preparation of the Consolidated Financial Statements and actual results could differ materially from the amounts reported based on these policies. To the extent there are material differences between our estimates and the actual results, our future consolidated results of operations may be affected.

- *Goodwill:* We make significant estimates, assumptions, and judgments when valuing goodwill and other intangible assets in connection with the initial purchase price allocation of an acquired entity, as well as when evaluating impairment of goodwill and other intangible assets on an ongoing basis. These estimates are based upon a number of factors, including historical experience, market conditions, and information obtained from the management of the acquired company. Critical estimates in valuing certain intangible assets include, but are not limited to, historical and projected customer retention rates, anticipated growth in revenue from the acquired customer and product base, and the expected use of the acquired assets. These factors are also considered in determining the useful life of the acquired intangible assets. The amounts and useful lives assigned to identified intangible assets impacts the amount and timing of future amortization expense.

Goodwill represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recorded. The excess of the purchase price over the estimated fair value of net assets of businesses acquired in a business combination is recognized as goodwill. We evaluate our goodwill for impairment on an annual basis, as of November 1<sup>st</sup>, or more frequently if an event occurs or facts and circumstances change that would more likely than not reduce the fair value of our reporting units below their carrying amount.

Goodwill is tested for impairment at the reporting unit level, which is one level below our operating segment level, by comparing the reporting unit's carrying value, including goodwill, to the fair value of the reporting unit. The reporting units are determined based on the components of our operating segment that constitutes a business for which discrete financial information is available, and segment management regularly review the operating results of the component.

The provisions of the accounting standard for goodwill and other intangibles allow us to first assess qualitative factors to determine whether it is necessary to perform the two-step quantitative goodwill impairment test. Various factors are considered in the qualitative assessment, including macroeconomic conditions, financial performance, or a sustained decrease in share price. If as a result of the qualitative assessment, it is deemed more likely than not that the fair value of a reporting unit is less than its carrying amount, management will perform the quantitative test.

The quantitative goodwill impairment test, if necessary, involves a two-step process to identify goodwill impairment and measure the amount of goodwill impairment loss to be recognized, if any. The first step tests for potential impairment by comparing the fair value of the reporting unit with the reporting unit's carrying value. If the fair value of the reporting unit exceeds the carrying value of the reporting unit's net assets, goodwill is not impaired and no further testing is required. If the fair value of the reporting unit does not exceed the carrying value of the net assets assigned to the reporting unit, then we perform the second step of the impairment test in order to determine the implied fair value of the reporting unit's goodwill. The second step requires an assignment of the reporting unit's fair value to the reporting unit's assets and liabilities, using the relevant acquisition accounting guidance, to determine the implied fair value of the reporting unit's goodwill. The implied fair value of the reporting unit's goodwill is then compared with the carrying amount of the reporting unit's goodwill, and if the carrying value of a reporting unit's goodwill exceeds its implied fair value, we record an impairment loss equal to the difference.

In the first step, the fair value of each of our reporting units is determined using both the income and market valuation approaches. We believe the income approach and the market approach are equally representative of the reporting unit's fair value. Under the income approach, the fair value of the reporting unit is based on the present value of estimated future cash flows that the reporting unit is expected to generate over its remaining life. Under the market approach, the value of the reporting unit is based on an analysis that compares the value of the reporting unit to values of publicly-traded companies in similar lines of business. In the application of the income and market valuation approaches, we are required to make estimates of future operating trends and judgments on discount rates and other variables. Determining the fair value of a reporting unit is highly judgmental in nature and involves the use of significant estimates and assumptions. We base our fair value estimates on assumptions we believe to be reasonable, but unpredictable and inherently uncertain. Actual future results related to assumed variables could differ from these estimates. In addition, we make certain judgments and assumptions in allocating shared assets and liabilities to determine the carrying values for each of our reporting units.

Under the income approach, we calculate the fair value of a reporting unit based on the present value of estimated future cash flows. Cash flow projections are based on management's estimates of revenue growth rates and operating margins, taking into consideration industry and market conditions. The discount rate used is based on the weighted-average cost of capital, adjusted for the relevant risk associated with business-specific characteristics and the uncertainty related to the business's ability to execute on the projected cash flows. Under the market approach, we estimate the fair value based on market multiples of earnings derived from comparable publicly-traded companies with similar operating and investment characteristics as the reporting units, and then apply a control premium, which is determined by

considering control premiums offered as part of the acquisitions that have occurred in market segments that are comparable with our reporting units. The income approach and the market approach are equally weighted to derive the fair value of the reporting unit.

During the fourth quarter of 2018, we performed a quantitative assessment for all of our reporting units: Routing, Switching, and Security. This quantitative assessment was performed by determining the fair value of each reporting unit using a combination of the income approach and the market approach. Based on the results of the quantitative assessments, we determined that the fair value of each reporting unit significantly exceeded its respective carrying value, resulting in no goodwill impairment.

- *Inventory Valuation and Contract Manufacturer Liabilities:* Inventory consists primarily of component parts to be used in the manufacturing process and finished goods in-transit, and is stated at lower of cost or net realizable value. A provision is recorded when inventory is determined to be in excess of anticipated demand or obsolete, to adjust inventory to its estimated realizable value. In determining the provision, we also consider estimated recovery rates based on the nature of the inventory. As of December 31, 2018 and December 31, 2017, our net inventory balances were \$82.0 million and \$97.8 million, respectively.

We establish a liability for non-cancelable, non-returnable purchase commitments with our contract manufacturers for quantities in excess of our demand forecasts or obsolete materials charges for components purchased by contract manufacturers based on our demand forecasts or customer orders. We also take estimated recoveries of aged inventory into consideration when determining the liability. As of December 31, 2018 and December 31, 2017, our contract manufacturer liabilities were \$30.4 million and \$22.0 million, respectively.

Significant judgment is used in establishing our forecasts of future demand, recovery rates based on the nature and age of inventory, and obsolete material exposures. We perform a detailed analysis and review of data used in establishing our demand forecasts. If the actual component usage and product demand are significantly lower than forecast, which may be caused by factors within and outside of our control, or if there were a higher incidence of inventory obsolescence because of rapidly changing technology and our customer requirements, we may be required to increase our inventory write-downs and contract manufacturer liabilities, which could have an adverse impact on our gross margins and profitability. We regularly evaluate our exposure for inventory write-downs and adequacy of our contract manufacturer liabilities. Inventory and supply chain management remains an area of focus as we balance the risk of material obsolescence and supply chain flexibility in order to reduce lead times.

- *Revenue Recognition:* We enter into contracts to sell our products and services, and while some of our sales agreements contain standard terms and conditions, there are agreements that contain non-standard terms and conditions and include promises to transfer multiple goods or services. As a result, significant interpretation and judgment are sometimes required to determine the appropriate accounting for these transactions, including: (1) whether performance obligations are considered distinct that should be accounted for separately versus together, how the price should be allocated among the performance obligations, and when to recognize revenue for each performance obligation; (2) developing an estimate of the stand-alone selling price, or SSP, of each distinct performance obligation; (3) combining contracts that may impact the allocation of the transaction price between product and services; and (4) estimating and accounting for variable consideration, including rights of return, rebates, price protection, expected penalties or other price concessions as a reduction of the transaction price.

Our estimates of SSP for each performance obligation require judgment that considers multiple factors, including, but not limited to, historical discounting trends for products and services, pricing practices in different geographies and through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, and industry technology lifecycles. Our estimates for rights of return, rebates, and price protection are based on historical sales returns and price protection credits, specific criteria outlined in customer contracts or rebate agreements, and other factors known at the time. Our estimates for expected penalties and other price concessions are based on historical trends and expectations regarding future incurrence.

Changes in judgments with respect to these assumptions and estimates could impact the timing or amount of revenue recognition.

- *Income Taxes:* We are subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our taxes. Although we believe our reserves are reasonable, no assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in our historical income tax provisions and accruals. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made.

Significant judgment is also required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

Our provision for income taxes is subject to volatility and could be adversely affected by earnings being lower than anticipated in countries that have lower tax rates and higher than anticipated in countries that have higher tax rates; by changes in the valuation of our deferred tax assets and liabilities; by expiration of, or lapses in the R&D tax credit laws; by transfer pricing adjustments, including the effect of acquisitions on our intercompany R&D cost-sharing arrangement and legal structure; by tax effects of nondeductible compensation; by tax costs related to intercompany realignments; by changes in accounting principles; or by changes in tax laws and regulations, including possible U.S. changes to the taxation of earnings of our foreign subsidiaries, the deductibility of expenses attributable to foreign income, or the foreign tax credit rules. In addition, the OECD's recommended changes to numerous long-standing tax principles, as adopted by countries, will increase tax uncertainty and may adversely affect our provision for income taxes. Significant judgment is required to determine the recognition and measurement attributes prescribed in the accounting guidance for uncertainty in income taxes. The accounting guidance for uncertainty in income taxes applies to all income tax positions, including the potential recovery of previously paid taxes, which if settled unfavorably could adversely affect our provision for income taxes or additional paid-in capital. In addition, we are subject to the continuous examination of our income tax returns by the IRS and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuous examinations will not have an adverse effect on our operating results and financial condition.

- *Loss Contingencies:* We are involved in various lawsuits, claims, investigations, and proceedings, including those involving our IP, commercial, securities and employment matters, which arise in the ordinary course of business. We use significant judgment and assumptions to estimate the likelihood of loss or impairment of an asset, or the incurrence of a liability, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired or a liability has been incurred and the amount of loss can be reasonably estimated. We record a charge equal to the minimum estimated liability for litigation costs or a loss contingency only when both of the following conditions are met: (i) information available prior to issuance of our consolidated financial statements indicates that it is probable that an asset had been impaired or a liability had been incurred at the date of the financial statements and (ii) the range of loss can be reasonably estimated. We regularly evaluate current information available to us to determine whether such accruals should be adjusted and whether new accruals are required.

### **Recent Accounting Pronouncements**

See Note 2, *Significant Accounting Policies*, in Notes to the Consolidated Financial Statements in Item 8 of Part II of this Report for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on financial condition and results of operations, which is incorporated herein by reference.

## Results of Operations

### Revenues

The following table presents net revenues by product and service, customer vertical (\*), and geographic region (in millions, except percentages):

	Years Ended December 31,							
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016		
				\$ Change	% Change	\$ Change	% Change	
Routing	\$ 1,839.7	\$ 2,189.5	\$ 2,352.9	\$ (349.8)	(16)%	\$ (163.4)	(7)%	
Switching	934.4	963.4	858.0	(29.0)	(3)%	105.4	12 %	
Security	333.0	293.3	318.0	39.7	14 %	(24.7)	(8)%	
Total Product	3,107.1	3,446.2	3,528.9	(339.1)	(10)%	(82.7)	(2)%	
Percentage of net revenues	66.9%	68.6%	70.7%					
Total Service	1,540.4	1,581.0	1,461.2	(40.6)	(3)%	119.8	8 %	
Percentage of net revenues	33.1%	31.4%	29.3%					
Total net revenues	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1	\$ (379.7)	(8)%	\$ 37.1	1 %	
Cloud	\$ 1,049.9	\$ 1,310.7	\$ 1,315.9	\$ (260.8)	(20)%	\$ (5.2)	—%	
Percentage of net revenues	22.6%	26.0%	26.4%					
Service Provider	2,066.7	2,319.4	2,316.4	(252.7)	(11)%	3.0	—%	
Percentage of net revenues	44.5%	46.1%	46.4%					
Enterprise	1,530.9	1,397.1	1,357.8	133.8	10 %	39.3	3 %	
Percentage of net revenues	32.9%	27.8%	27.2%					
Total net revenues	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1	\$ (379.7)	(8)%	\$ 37.1	1 %	
Americas:								
United States	\$ 2,339.1	\$ 2,712.6	\$ 2,737.0	\$ (373.5)	(14)%	\$ (24.4)	(1)%	
Other	202.1	234.6	231.8	(32.5)	(14)%	2.8	1 %	
Total Americas	2,541.2	2,947.2	2,968.8	(406.0)	(14)%	(21.6)	(1)%	
Percentage of net revenues	54.7%	58.6%	59.5%					
EMEA	1,290.8	1,195.8	1,238.1	95.0	8 %	(42.3)	(3)%	
Percentage of net revenues	27.8%	23.8%	24.8%					
APAC	815.5	884.2	783.2	(68.7)	(8)%	101.0	13 %	
Percentage of net revenues	17.5%	17.6%	15.7%					
Total net revenues	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1	\$ (379.7)	(8)%	\$ 37.1	1 %	

(\*) Certain prior-period amounts have been reclassified to conform to the current-period classifications.

### 2018 Compared to 2017

Product net revenues decreased in 2018, compared to 2017, primarily due to Cloud and Service Provider, impacting routing and switching in the Americas. The decrease in product revenues was partially offset by the impact of Topic 606 and growth in Enterprise.

The decrease in routing and switching revenues in the Americas was driven by the networking architectural transitions for certain large Cloud customers due to the timing of deployments and a decline in our Service Provider business, resulting in lower net revenues from our MX, PTX, and QFX product families. For PTX, the decline was primarily due to the pace of deployments for certain large Cloud customers. We believe PTX sales will increase as incremental capacity requirements eventually drive improved demand. The decline was partially offset by broad-based revenue growth in Enterprise across all technologies and geographies. Given the strength in our Enterprise vertical, strong customer interest in our new platforms, such as Conrail Enterprise MultiCloud and MX10003, and the investments we are making in our enterprise sales strategy, we believe our Enterprise vertical will continue to contribute to revenue growth in 2019. We also saw strength in EMEA driven by the aforementioned revenue growth in Enterprise,



[Table of Contents](#)

as well as higher revenues from Service Provider customers, resulting from our solutions based sales strategy to enable the Telco Cloud transformation and enterprise multicloud initiatives.

We experienced growth in revenues from our security business during 2018, compared to 2017, across all verticals as customers transitioned to our newer product offerings. We expect that our security business will see year-over-year growth for the full year 2019.

Service net revenues decreased during 2018, compared to 2017, due to the impact of Topic 606. Excluding the impact of Topic 606, our service net revenues would have increased year-over-year, driven primarily by strong renewal and attach rates of support contracts.

### 2017 Compared to 2016

Product net revenues decreased in 2017, compared to 2016, primarily due to a decrease in routing and, to a lesser extent, security, partially offset by growth in switching.

Lower routing revenues were driven by Cloud customers in the Americas as a result of the ongoing architectural shifts in the Cloud vertical to more automated, cost efficient, and scalable networks. Routing revenues in EMEA also declined year-over-year due to lower sales from Service Provider customers, partially offset by revenue growth in APAC from our Service Provider vertical. As we continue to expand our footprint with certain strategic APAC Service Provider and Cloud customers, we expect these strategic opportunities will ultimately help to drive revenue growth in APAC, however the timing is difficult to predict. Revenues from our MX and legacy routing products declined year-over-year, which was partially offset by an increase in revenues from our PTX products from the continued adoption of our PTX1000 series of products.

Security net revenues declined in 2017, compared to 2016, primarily driven by a decrease in our high-end SRX series as it had been undergoing a product refresh cycle and the decline in our Other Legacy products.

The decline in product net revenues was partially offset by an increase in switching net revenues due to continued growth from our data center switching portfolio, particularly from our QFX product family, which grew 25% year-over-year. This growth was across public and private clouds, driven in part by 100G adoption. The switching net revenue growth was primarily driven by the Cloud vertical in the Americas and, to a lesser extent, our Enterprise vertical.

Service net revenues increased during in 2017, compared to 2016, primarily due to strong renewal and attach rates of support contracts. Additionally, we saw strong year-over-year services revenue growth in APAC and EMEA.

### Customer

No customer accounted for greater than 10% of our net revenues during the years ended December 31, 2018, 2017, and 2016.

### Gross Margins

The following table presents gross margins (in millions, except percentages):

	Years Ended December 31,						
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016	
				\$ Change	% Change	\$ Change	% Change
Product gross margin	\$ 1,829.9	\$ 2,085.3	\$ 2,202.7	\$ (255.4)	(12)%	\$ (117.4)	(5)%
Percentage of product revenues	58.9%	60.5%	62.4%				
Service gross margin	911.3	986.8	901.8	(75.5)	(8)%	85.0	9 %
Percentage of service revenues	59.2%	62.4%	61.7%				
Total gross margin	\$ 2,741.2	\$ 3,072.1	\$ 3,104.5	\$ (330.9)	(11)%	\$ (32.4)	(1)%
Percentage of net revenues	59.0%	61.1%	62.2%				

Our gross margins as a percentage of net revenues have been and will continue to be affected by a variety of factors, including the mix and average selling prices of our products and services, new product introductions and enhancements, manufacturing, component and logistics costs, expenses for inventory obsolescence and warranty obligations, cost of support and service personnel, customer mix as we continue to expand our footprint with certain strategic customers, the mix of distribution channels through

[Table of Contents](#)

which our products and services are sold, and import tariffs. For example, the United States recently imposed a tariff on networking products imported from China, which includes certain products that we import into and sell within the United States. These import tariffs could have a significant impact to our gross margins in the event we are unable to meaningfully mitigate their impact. For more information on the potential impact of tariffs on our business, see the “Risk Factors” section of Item 1A of Part II of this Report .

**2018 Compared to 2017**

*Product gross margin*

Product gross margin as a percentage of product revenues decreased in 2018 , compared to 2017 , primarily due to lower net revenues and product mix, resulting from the year-over-year decline in routing revenues from our Cloud and Service Provider verticals, partially offset by the impact of Topic 606 and improvements in our cost structure. We continue to undertake specific efforts to address certain factors impacting our product gross margin. These efforts include performance and quality improvements through engineering to increase value across our products; optimizing our supply chain and service business; pricing management; and increasing software and solution sales; however, there can be no guarantee that these efforts will be successful or that they will be realized in the time frame we anticipate.

*Service gross margin*

Service gross margin as a percentage of service net revenues decreased in 2018 , compared to 2017 , due to lower revenues from the impact of Topic 606, increased professional services costs to support our software deployments, and higher service delivery costs, partially offset by lower personnel-related costs.

**2017 Compared to 2016**

*Product gross margin*

Product gross margin as a percentage of product revenues decreased in 2017, compared to 2016, primarily due to lower product net revenues, customer mix, and product mix resulting from the year-over-year decline in routing revenues and our customers' architectural shifts, partially offset by improvements in our cost structure.

*Service gross margin*

Service gross margin as a percentage of service net revenues increased in 2017, compared to 2016, due to higher service revenues, partially offset by higher material and higher delivery costs.

**Operating Expenses**

The following table presents operating expenses (in millions, except percentages):

	Years Ended December 31,											
	2018		2017		2016		2018 vs. 2017		2017 vs. 2016			
							\$ Change	% Change	\$ Change	% Change		
Research and development	\$	1,003.2	\$	980.7	\$	1,013.7	\$	22.5	2 %	\$	(33.0)	(3)%
<i>Percentage of net revenues</i>		21.6%		19.5%		20.3%						
Sales and marketing		927.4		950.2		972.9		(22.8)	(2)%		(22.7)	(2)%
<i>Percentage of net revenues</i>		19.9%		18.9%		19.5%						
General and administrative		231.1		227.5		224.9		3.6	2 %		2.6	1 %
<i>Percentage of net revenues</i>		5.0%		4.5%		4.5%						
Restructuring charges		7.3		65.6		3.3		(58.3)	N/M		62.3	N/M
<i>Percentage of net revenues</i>		0.2%		1.3%		0.1%						
<b>Total operating expenses</b>	<b>\$</b>	<b>2,169.0</b>	<b>\$</b>	<b>2,224.0</b>	<b>\$</b>	<b>2,214.8</b>	<b>\$</b>	<b>(55.0)</b>	<b>(2)%</b>	<b>\$</b>	<b>9.2</b>	<b>— %</b>
<i>Percentage of net revenues</i>		46.7%		44.2%		44.4%						

N/M - percentage is not meaningful.

Our operating expenses have historically been driven in large part by personnel-related costs, including salaries and wages; commissions and bonuses, which we refer to collectively as variable compensation; benefits; share-based compensation; and travel. Facility and information technology, or IT, departmental costs are allocated to each department based on usage and headcount. We had a total of 9,283, 9,381, and 9,832 employees as of December 31, 2018, 2017, and 2016, respectively. Our headcount decreased by 98 employees, or 1%, in 2018, compared to 2017, primarily due to our restructuring plan initiated in the third quarter of 2018 to realign our workforce as a result of organizational and leadership changes, which we refer to as the 2018 Restructuring Plan. Our headcount decreased by 451 employees, or 5%, in 2017, compared to 2016, primarily due to our restructuring plan initiated in the first quarter of 2017 to realign our workforce and increase operational efficiency, which we refer to as the 2017 Restructuring Plan.

### **2018 Compared to 2017**

#### *Research and development*

Research and development expense, or R&D, increased in 2018, compared to 2017, primarily due to higher personnel-related costs, including an increase in share-based compensation expense of \$34.4 million driven by higher expense from the modification of certain performance share awards, or PSAs, whose vesting is contingent upon the achievement of certain performance milestones, and higher variable compensation expense of \$17.8 million. The increase was partially offset by lower salaries and wages of \$26.7 million due to a geographic shift in headcount to lower cost regions, as well as a reduction in headcount from restructuring actions.

#### *Sales and marketing*

Sales and marketing expense decreased in 2018, compared to 2017, due to lower personnel-related costs of \$10.9 million primarily resulting from a decline in headcount of 49 employees driven by restructuring actions and lower costs of \$9.3 million from a decrease in the number of marketing events held in 2018, compared to 2017. The decrease was partially offset by higher outside service costs of \$7.1 million related to consulting projects.

#### *General and administrative*

General and administrative expense increased in 2018, compared to 2017, primarily due to higher acquisition costs related to our 2018 business acquisition of HTBase, partially offset by a decline in outside service costs resulting from fewer consulting projects and lower legal costs.

#### *Restructuring charges*

Restructuring charges decreased in 2018, compared to 2017, primarily due to lower restructuring charges from the 2018 Restructuring Plan, compared to the 2017 Restructuring Plan.

See Note 18, *Subsequent Events*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for a discussion of our restructuring plan initiated subsequent to December 31, 2018.

### **2017 Compared to 2016**

#### *Research and development*

Research and development expense, decreased in 2017, compared to 2016, primarily due to a decline in personnel-related costs, including lower share-based compensation of \$39.8 million primarily driven by lower expense from certain PSAs, whose vesting is contingent upon the achievement of financial performance metrics or certain performance milestones, and lower variable compensation of \$13.7 million. The decrease was partially offset by higher costs related to certain R&D project cancellations of \$11.4 million and higher prototype costs of \$10.4 million.

#### *Sales and marketing*

Sales and marketing expense decreased in 2017, compared to 2016, primarily due to a decline in personnel-related costs of \$20.5 million, including lower variable compensation of \$15.5 million primarily as a result of lower commissions expense and lower salaries and wages driven by a decrease in headcount as a result of the 2017 Restructuring Plan.

[Table of Contents](#)*General and administrative*

General and administrative expense increased in 2017, compared to 2016, primarily due to litigation settlement charges pursuant to a litigation settlement reached in November 2017 in connection with a legal proceeding of approximately \$13.0 million, partially offset by a decline in other legal costs of \$6.4 million.

*Restructuring charges*

Restructuring charges increased in 2017, compared to 2016, primarily due to severance and contract termination costs recorded under the 2017 Restructuring Plan.

***Other Expense, Net***

The following table presents other expense, net (in millions, except percentages):

	Years Ended December 31,							
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016		
				\$ Change	% Change	\$ Change	% Change	
Interest income	\$ 72.7	\$ 53.0	\$ 35.4	\$ 19.7	37 %	\$ 17.6	50 %	
Interest expense	(103.2)	(101.2)	(97.7)	(2.0)	2 %	(3.5)	4 %	
(Loss) gain on investments, net	(7.4)	14.6	(1.8)	(22.0)	(151)%	16.4	N/M	
Other	(1.6)	(2.7)	1.8	1.1	(41)%	(4.5)	(250)%	
<b>Total other expense, net</b>	<b>\$ (39.5)</b>	<b>\$ (36.3)</b>	<b>\$ (62.3)</b>	<b>\$ (3.2)</b>	<b>9 %</b>	<b>\$ 26.0</b>	<b>(42)%</b>	
<i>Percentage of net revenues</i>	<i>(0.8)%</i>	<i>(0.7)%</i>	<i>(1.2)%</i>					

N/M - percentage is not meaningful.

*Other Expense, Net*

Interest income primarily includes interest earned on our cash, cash equivalents, investments, and promissory note issued to us in connection with the sale of Junos Pulse. Interest expense primarily includes interest, net of capitalized interest expense, from long-term debt and customer financing arrangements. (Loss) gain on investments, net, primarily includes gains from the sale of investments in public and privately-held companies, and any observable changes in fair value and impairment charges recorded on these investments. Other typically consists of foreign exchange gains and losses and other non-operational income and expense items.

***2018 Compared to 2017****Interest Income*

Interest income increased in 2018, compared to 2017, primarily due to higher interest income related to our fixed income investment portfolio, as a result of higher yields on our investments, partially offset by lower average investment balances.

*Interest Expense*

Interest expense increased in 2018, compared to 2017, primarily due to distributor financing arrangements from extended payment terms financing.

*(Loss) Gain on Investments, Net*

During the year ended December 31, 2018, we had losses related to the sale of certain equity investments in privately-held companies, compared to gains on sales during 2017. In addition, we recorded impairment charges on a certain equity investment in a privately-held company in 2018, and there were no such charges recorded in 2017.

**2017 Compared to 2016***Interest Income*

Interest income increased in 2017, compared to 2016, primarily due to an increase in interest income related to our investment portfolio, as a result of higher yields and a larger balance in the portfolio.

*Interest Expense*

Interest expense increased in 2017, compared to 2016, primarily due to a full-year effect of interest expense from the issuance of our 2019 and 2024 Notes in the first quarter of 2016. See Note 10, *Debt and Financing*, in Notes to Consolidated Financial Statements in Item 8 in Part II of this Report for additional information regarding our 2019 and 2024 Notes.

*Gain (Loss) on Investments, Net*

In 2017, gains on equity investments increased, primarily related to the sale of investments in public and privately-held companies, compared to 2016. In addition, we recorded impairment charges on certain investments in privately-held companies in 2016, and there were no such charges recorded in 2017.

**Income Tax (Benefit) Provision**

The following table presents the income tax (benefit) provision (in millions, except percentages):

	Years Ended December 31,						
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016	
				\$ Change	% Change	\$ Change	% Change
Income tax (benefit) provision	\$ (34.2)	\$ 505.6	\$ 234.7	\$ (539.8)	(107)%	\$ 270.9	115%
Effective tax (benefit) rate	(6.4)%	62.3%	28.4%				

**2018 Compared to 2017**

The effective tax rate for fiscal year 2018 is lower than 2017, primarily due to: a lower statutory tax rate as a result of the Tax Act enacted on December 22, 2017; a \$67.6 million related to a lapse in the federal statute of limitations relative to tax years 2010 through 2014, including interest; a \$33.2 million benefit as a result of filing a change in tax accounting method for the recognition of deferred product revenue in the U.S. to better align with the financial statement recognition of such revenue; a \$32.2 million resulting from a tax accounting method change related to foreign deferred service revenue; a favorable change in the geographic mix of earnings; and, discrete taxes of approximately \$289.5 million accrued on accumulated foreign earnings under the Tax Act in the fourth quarter ended December 31, 2017.

The Tax Act introduced significant changes to U.S. income tax law. Effective January 1, 2018, the Tax Act reduced the U.S. federal corporate income tax rate from 35% to 21% and created a minimum tax on foreign earnings and imposed a one-time transition tax on accumulated foreign earnings through December 31, 2017. In 2017, we recorded provisional amounts for the effects of the Tax Act of \$289.5 million, primarily related to net taxes on accumulated foreign earnings and the re-measurement of our deferred tax assets at the revised U.S. statutory rate. In the fourth quarter of 2018, we completed our analysis to determine the effect of the Tax Act and recorded immaterial adjustments as of December 31, 2018. We have elected to pay our transition tax, net of applicable tax refunds, over the eight-year period provided in the Tax Act.

For a complete reconciliation of our effective tax rate to the U.S. federal statutory rate of 21% and further explanation of our income tax provision, see Note 14, *Income Taxes*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report.

On July 24, 2018, the Ninth Circuit Court of Appeals, or the Court, issued an opinion in *Altera Corp. v. Commissioner* requiring related parties in an intercompany cost-sharing arrangement to share expenses related to share-based compensation. On August 7, 2018, the Court withdrew its opinion to allow time for a reconstituted panel to confer. We will continue to monitor ongoing developments and potential impacts to its financial statements. Had the Ninth Circuit not withdrawn its opinion, our effective tax rate for 2018 would have been higher.

[Table of Contents](#)

Our effective tax rate may fluctuate significantly on a quarterly basis and may be adversely affected to the extent earnings are lower than anticipated in countries that have lower statutory rates and higher than anticipated in countries that have higher statutory rates. Our effective tax rate may also fluctuate due to changes in the valuation of our deferred tax assets or liabilities, or by changes in tax laws, regulations, or accounting principles, as well as certain discrete items. See Item 1A of Part I, "Risk Factors" of this Report for a description of relevant risks which may adversely affect our results.

**2017 Compared to 2016**

The effective tax rate for the fiscal year 2017 was higher than 2016, primarily due to an estimated \$289.5 million of net income tax expense related to changes imposed by the Tax Act, which was enacted on December 22, 2017. Effective January 1, 2018, the Tax Act provided for significant changes to U.S. income tax law including the reduction of the U.S. federal corporate income tax rate from 35% to 21% and the creation of a minimum tax on foreign earnings. In addition, the Tax Act imposed a one-time transition tax on accumulated foreign earnings through December 31, 2017. The \$289.5 million income tax expense included an estimated tax charge of \$431.2 million on our accumulated foreign earnings, which we elected to pay over eight years.

As a result of recommendations by the Organisation for Economic Cooperation and Development, or OECD, on Base Erosion and Profit Shifting, certain countries in EMEA and APAC have either enacted new corporate tax legislation or are considering enacting such legislation in the near future. We expect the effect of these reform measures to potentially impact long-standing tax principles, particularly in regards to transfer pricing. Consequently, we expect global tax authorities to increasingly challenge our cost sharing and other intercompany arrangements, and the related sourcing of taxable profits in global jurisdictions.

**Liquidity and Capital Resources**

The following sections discuss the effects of changes in our balance sheet, our capital return strategy, including our stock repurchase program and dividends, our contractual obligations, and certain other commitments and activities on our liquidity and capital resources.

We have funded our business primarily through our operating activities and the issuance of our long-term debt. The following table presents our capital resources (in millions, except percentages):

	As of December 31,		\$ Change	% Change
	2018	2017		
Working capital	\$ 2,739.3	\$ 2,446.3	\$ 293.0	12 %
Cash and cash equivalents	\$ 2,489.0	\$ 2,006.5	\$ 482.5	24 %
Short-term investments	1,070.1	1,026.1	44.0	4 %
Long-term investments	199.0	988.4	(789.4)	(80)%
Total cash, cash equivalents, and investments	3,758.1	4,021.0	(262.9)	(7)%
Short-term portion of long-term debt	349.9	—	349.9	N/M
Long-term debt	1,789.1	2,136.3	(347.2)	(16)%
Cash, cash equivalents, and investments, net of debt	\$ 1,619.1	\$ 1,884.7	\$ (265.6)	(14)%

N/M - percentage is not meaningful.

**Summary of Cash Flows**

The following table summarizes cash flow activity from our Consolidated Statements of Cash Flows (in millions, except percentages):

	Years Ended December 31,						
	2018	2017	2016	2018 vs. 2017		2017 vs. 2016	
				\$ Change	% Change	\$ Change	% Change
Net cash provided by operating activities (*)	\$ 861.1	\$ 1,259.3	\$ 1,126.6	\$ (398.2)	(32)%	\$ 132.7	12 %
Net cash provided by (used in) investing activities (*)	\$ 564.8	\$ (303.0)	\$ (417.0)	\$ 867.8	(286)%	\$ 114.0	(27)%
Net cash used in financing activities	\$ (968.6)	\$ (794.8)	\$ (236.3)	\$ (173.8)	22 %	\$ (558.5)	236 %

(\*) On January 1, 2018, we adopted the new accounting pronouncement *Statement of Cash Flows: Restricted Cash*. We applied this provision on a retrospective basis to conform to the current-period presentation. The adoption did not have a material impact on the cash flow activity presented in our Consolidated Statement of Cash Flows for the fiscal years ended 2017 and 2016.

**Operating Activities**

Our primary source of operating cash flows is cash collections from our customers. Our primary uses of cash from operating activities are for personnel-related expenditures, and other general operating expenses, as well as payments related to taxes, interest, and facilities.

*2018 Compared to 2017*

Net cash provided by operations decreased in 2018, compared to 2017, primarily due to higher cash collections from customers during 2017 related to service renewals invoiced during the fourth quarter of 2016, partially offset by a decline in cash paid for personnel-related costs, principally as a result of a reduction in headcount and lower incentive compensation, and a decrease in payments to suppliers.

*2017 Compared to 2016*

Net cash provided by operating activities increased in 2017, compared to 2016, primarily due to an increase in cash collections from customers in the first half of 2017 due to higher invoicing activity during the fourth quarter of 2016, partially offset by an increase in payments to suppliers, higher payments for restructuring activities, and an increase in cash paid for income taxes.

**Investing Activities**

Investing cash flows consist primarily of capital expenditures; purchases, sales, maturities, and redemptions of investments; and cash used for business combinations.

*2018 Compared to 2017*

Net cash provided by investing activities increased in 2018, compared to 2017, primarily due to the liquidation of repatriated offshore investments to fund the accelerated share repurchase program discussed below.

*2017 Compared to 2016*

Net cash used in investing activities decreased in 2017, compared to 2016, primarily due to lower payments for business combinations and capital expenditures and the receipt of \$75.0 million in proceeds from the Pulse Note, partially offset by higher net purchases of available-for-sale debt securities.

**Financing Activities**

Financing cash flows consist primarily of repurchases and retirement of common stock, payment of cash dividends to stockholders, issuance and repayment of long-term debt, and proceeds from the issuance of shares of common stock through employee equity incentive plans.

*2018 Compared to 2017*

Net cash used in financing activities increased in 2018, compared to 2017, primarily due to an increase in payments of cash dividends and higher repurchases of our common stock, as a result of the accelerated share repurchase program, or ASR, described further below.

*2017 Compared to 2016*

Net cash used in financing activities increased in 2017, compared to 2016, primarily due to an increase in repurchases and retirement of our common stock in 2017. In 2016, we raised \$494.0 million from our 2019 Notes and 2024 Notes and repaid \$300.0 million of our 2016 Notes.

**Capital Return**

The following table summarizes our dividends paid and stock repurchase activities (in millions, except per share amounts):

Year	Dividends		Stock Repurchase Program			Total
	Per Share	Amount	Shares	Average price per share	Amount	Amount
2018	\$ 0.72	\$ 249.3	29.3	\$ 25.62	\$ 750.0	\$ 999.3
2017	\$ 0.40	\$ 150.4	26.1	\$ 27.61	\$ 719.7	\$ 870.1
2016	\$ 0.40	\$ 152.5	13.5	\$ 23.25	\$ 312.9	\$ 465.4

In January 2018, our Board of Directors, which we refer to as the Board, approved a \$2.0 billion share repurchase program, which we refer to as the 2018 Stock Repurchase Program. The 2018 Stock Repurchase Program replaces the previous authorization approved by the Board in 2014.

As part of the 2018 Stock Repurchase Program, we entered into an ASR to repurchase \$750.0 million of our common stock. We made an up-front payment of \$750.0 million pursuant to the ASR to repurchase our common stock. The aggregate number of shares ultimately repurchased of 29.3 million shares of common stock was determined based on a volume weighted average repurchase price, less an agreed upon discount, of \$25.62 per share.

As of December 31, 2018, there was \$1.3 billion of authorized funds remaining under the 2018 Stock Repurchase Program, as of the filing date of this Report.

Future share repurchases under the 2018 Stock Repurchase Program will be subject to a review of the circumstances at that time and will be made from time to time in private transactions or open market purchases as permitted by securities laws and other legal requirements. Our 2018 Stock Repurchase Program may be discontinued at any time. See Note 11, *Equity*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further discussion of our share purchase program.

In addition, any future dividends, and the establishment of record and payment dates, are subject to approval by the Board or an authorized committee thereof. See Note 18, *Subsequent Event*, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for discussion of our dividend declaration subsequent to December 31, 2018.



**Off-Balance Sheet Arrangements**

As of December 31, 2018 and 2017, we did not have any off-balance sheet arrangements, as defined in Item 303 (a)(4)(ii) of SEC Regulation S-K. It is not our business practice to enter into off-balance sheet arrangements. However, in the normal course of business, we enter into contracts consisting of guarantees of product and service performance, standby letters of credit for certain lease facilities and insurance programs. See *Guarantees* below for additional information regarding our guarantees.

**Contractual Obligations**

Our principal commitments consist of obligations outstanding under operating leases, purchase commitments, debt, and other contractual obligations. The following table summarizes our principal contractual obligations as of December 31, 2018 and the effect such obligations are expected to have on our liquidity and cash flow in future periods (in millions):

	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating leases <sup>(1)</sup>	\$ 146.3	\$ 33.7	\$ 55.0	\$ 31.3	\$ 26.3
Other lease arrangement <sup>(2)</sup>	101.0	13.1	26.9	28.1	32.9
Purchase commitments with contract manufacturers and suppliers <sup>(1)</sup>	663.3	605.9	57.4	—	—
Long-term debt <sup>(3)</sup>	2,150.0	350.0	600.0	—	1,200.0
Interest payment on long-term debt <sup>(3)</sup>	798.9	88.5	144.4	118.7	447.3
Tax liability related to the Tax Act <sup>(4)</sup>	245.2	—	—	53.8	191.4
Other contractual obligations <sup>(1)</sup>	97.8	43.1	37.8	14.0	2.9
Total	<u>\$ 4,202.5</u>	<u>\$ 1,134.3</u>	<u>\$ 921.5</u>	<u>\$ 245.9</u>	<u>\$ 1,900.8</u>

<sup>(1)</sup> See Note 16, *Commitments and Contingencies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for additional information regarding our contractual commitments.

<sup>(2)</sup> Lease arrangement is related to a data center lease agreement that we entered in to in July 2015. See Note 16, *Commitments and Contingencies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further explanation on the lease agreement.

<sup>(3)</sup> See Note 10, *Debt and Financing*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for additional information regarding our debt.

<sup>(4)</sup> See Note 16, *Commitments and Contingencies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for additional information regarding our tax liability related to the Tax Act.

As of December 31, 2018, we had \$159.2 million included in long-term income taxes payable in the Consolidated Balance Sheets for unrecognized tax positions. At this time, we are unable to make a reasonably reliable estimate of the timing of payments related to this amount due to uncertainties in the timing of tax audit outcomes. As a result, this amount is not included in the table above.

**Revolving Credit Facility**

As of December 31, 2018, we have not borrowed any funds and we were in compliance with all covenants under our unsecured revolving credit facility that will expire in 2019, which enables borrowings up to \$500.0 million, with the option to increase the amount of the credit facility by up to an additional \$200.0 million. See Note 10, *Debt and Financing*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further information on our credit facility.

**Guarantees**

We have entered into agreements with customers that contain indemnification provisions relating to potential situations where claims could be alleged that our products solely, or in combination with other third party products, infringe the intellectual property rights of a third-party. As of December 31, 2018, we recorded \$11.9 million for such indemnification obligations in other accrued liabilities and other long-term liabilities on the Consolidated Balance Sheets. We also have financial guarantees consisting of guarantees of product and service performance and standby letters of credit for certain lease facilities and insurance programs of \$23.1 million and \$23.0 million, as of December 31, 2018 and December 31, 2017, respectively.

***Liquidity and Capital Resources***

Liquidity and capital resources may be impacted by our operating activities as well as acquisitions, investments in strategic relationships, repurchases of additional shares of our common stock, and payment of cash dividends on our common stock. Following the enactment of the Tax Act, we repatriated approximately \$2.8 billion of our cash, cash equivalents, and investments balance from outside of the U.S as of December 31, 2018 . We expect the new territorial tax system to provide us lower cost access to nearly all of our global free cash flow on an ongoing basis. Free cash flow is calculated as net cash provided by operating activities less capital expenditures. We intend to use the repatriated cash to invest in the business, support value-enhancing merger and acquisitions, or M&A, and fund our return of capital to stockholders.

In August 2016, we filed an automatic shelf registration statement with the SEC enabling us to offer for sale, from time to time, an unspecified amount of securities in one or more offerings and is intended to give us flexibility to take advantage of financing opportunities as needed or deemed desirable in light of market conditions. Our 2019 Notes and 2024 Notes were issued under an automatic shelf registration statement that we filed in August 2013 pursuant to a prospectus supplement filed with the SEC on February 24, 2016. Our 2020 Notes and 2025 Notes were issued under an automatic shelf registration statement pursuant to a prospectus supplement filed with the SEC on February 26, 2015, and our \$350.0 million in principal amount of our 2024 Notes, which form a single series and are fully fungible with our 2024 Notes issued in 2016, were issued under an automatic shelf registration statement pursuant to a prospectus filed with the SEC on February 28, 2014. Any offerings of securities under our automatic shelf registration statement will be made pursuant to a prospectus. In addition, our Revolving Credit Facility will also provide additional flexibility for future liquidity needs.

Based on past performance and current expectations, we believe that our existing cash and cash equivalents, short-term, and long-term investments, together with cash generated from operations and access to capital markets and the revolving credit facility will be sufficient to fund our operations; planned stock repurchases and dividends; capital expenditures; commitments and other liquidity requirements; and anticipated growth for at least the next twelve months. However, our future liquidity and capital requirements may vary materially from those now planned depending on many factors, including, but not limited to, our growth rate; the timing and amount we spend to support development efforts; the expansion of sales and marketing activities; the introduction of new and enhanced products and services; the costs to acquire or invest in businesses and technologies; an increase in manufacturing or component costs; and the risks and uncertainties detailed in the “Risk Factors” section of Item 1A of Part I of this Report.

**ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk****Interest Rate Risk**

The primary objectives of our investment activities are, in order of priority, to preserve principal, maintain liquidity, and maximize yield. The value of our investments is subject to market price volatility. To minimize this risk, we maintain an investment portfolio of various holdings, types, and maturities, which includes asset-backed securities, certificates of deposit, commercial paper, corporate debt securities, foreign government debt securities, money market funds, mutual funds, time deposits, U.S. government agency securities, and U.S. government securities. At any time, a rise in interest rates could have a material adverse impact on the fair value of our investment portfolio. Conversely, a decline in interest rates could have a material impact on interest income from our investment portfolio. We do not currently hedge these interest rate exposures.

The following tables present hypothetical changes in fair value of our available-for-sale fixed income securities held as of December 31, 2018 and 2017 that are sensitive to changes in interest rates assuming immediate parallel shifts in the yield curve of 50 basis points, or BPS, 100 BPS and 150 BPS, which are representative of the historical movements in the Federal Funds Rate (in millions):

	- 150 BPS	- 100 BPS	- 50 BPS	Fair Value as of December 31, 2018	+ 50 BPS	+ 100 BPS	+ 150 BPS
Available-for-sale fixed income securities	\$ 2,210.6	\$ 2,208.0	\$ 2,205.4	\$ 2,202.8	\$ 2,200.3	\$ 2,197.7	\$ 2,195.1

	- 150 BPS	- 100 BPS	- 50 BPS	Fair Value as of December 31, 2017	+ 50 BPS	+ 100 BPS	+ 150 BPS
Available-for-sale fixed income securities	\$ 2,387.8	\$ 2,380.4	\$ 2,372.9	\$ 2,365.5	\$ 2,358.0	\$ 2,350.6	\$ 2,343.2

**Foreign Currency Risk and Foreign Exchange Forward Contracts**

Periodically, we use derivatives to hedge against fluctuations in foreign exchange rates. We do not enter into derivatives for speculative or trading purposes.

We use foreign currency forward contracts to mitigate variability in gains and losses generated from the re-measurement of certain monetary assets and liabilities denominated in foreign currencies. These foreign exchange forward contracts typically have maturities of approximately three months.

Our sales and costs of product revenues are primarily denominated in U.S. Dollars. Our cost of service revenue and operating expenses are denominated in U.S. Dollars as well as other foreign currencies, including the British Pound, Chinese Yuan, Euro, and the Indian Rupee. Approximately 78% of such costs and operating expenses are denominated in U.S. Dollars. Periodically, we use foreign currency forward and/or option contracts to hedge certain forecasted foreign currency transactions to reduce variability in cost of service revenue and operating expenses caused by non-U.S. Dollar denominated operating expense and costs. In designing a specific hedging approach, we consider several factors, including offsetting exposures, significance of exposures, costs associated with entering into a particular hedge instrument, and potential effectiveness of the hedge. These derivatives are designated as cash flow hedges and have maturities of seventeen months or less. The change in operating expenses including cost of service revenue, research and development, sales and marketing, and general and administrative expenses, due to foreign currency fluctuations was a reduction to operating expenses of 0.1% for both years ended December 31, 2018 and December 31, 2017, respectively. See Note 5, *Derivative Instruments*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further discussion of our derivative and hedging activity.

We have performed a sensitivity analysis as of December 31, 2018 and as of December 31, 2017, using a modeling technique that measures the change in the amount of non-U.S. dollar cash, cash equivalents and marketable securities arising from a hypothetical 10% movement in the levels of foreign currency exchange rates relative to the U.S. dollar, with all other variables held constant. The foreign currency exchange rates we used were based on market rates in effect on December 31, 2018 and December 31, 2017, respectively. The sensitivity analysis indicated that a hypothetical 10% movement in foreign currency exchange rates would change the amount of cash, cash equivalents, and investments we would report in U.S. Dollars as of December 31, 2018 and December 31, 2017 by less than 1.1% and by less than 1%, respectively.

## **Equity Price Risk**

We have also invested in privately-held companies. Depending on the nature of these investments, some can be carried at cost, adjusted for changes from observable transactions for identical or similar investments of the same issuer, less impairment, and others can be carried at fair value. The carrying values of our investments in privately-held companies were \$90.4 million and \$83.0 million <sup>(\*)</sup> as of December 31, 2018 and December 31, 2017, respectively. The privately-held companies in which we invest can still be considered in the startup or development stages. These investments are inherently risky because the markets for the technologies or products these companies are developing are typically in the early stages and may never materialize. We could lose our entire investment in these companies. Our evaluation of investments in privately-held companies is based on the fundamentals of the businesses invested in, including, among other factors, the nature of their technologies and potential for financial return.

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<sup>(\*)</sup> Prior to January 1, 2018, certain investments in privately-held companies were accounted for at cost less impairment. Realized gains or losses from sales or impairments were recognized in the Consolidated Statements of Operations.

**ITEM 8. Financial Statements and Supplementary Data**

**Juniper Network, Inc.  
Index to Consolidated Financial Statements**

	<b><u>Page</u></b>
<a href="#">Reports of Independent Registered Public Accounting Firm</a>	<a href="#">62</a>
<a href="#">Management's Report on Internal Control Over Financial Reporting</a>	<a href="#">64</a>
<a href="#">Consolidated Statements of Operations</a>	<a href="#">65</a>
<a href="#">Consolidated Statements of Comprehensive Income</a>	<a href="#">66</a>
<a href="#">Consolidated Balance Sheets</a>	<a href="#">67</a>
<a href="#">Consolidated Statements of Cash Flows</a>	<a href="#">68</a>
<a href="#">Consolidated Statements of Changes in Stockholders' Equity</a>	<a href="#">69</a>
<a href="#">Notes to Consolidated Financial Statements</a>	<a href="#">70</a>
<a href="#">Note 1. Description of Business and Basis of Presentation</a>	<a href="#">70</a>
<a href="#">Note 2. Significant Accounting Policies</a>	<a href="#">70</a>
<a href="#">Note 3. Business Combinations</a>	<a href="#">81</a>
<a href="#">Note 4. Cash Equivalents and Investments</a>	<a href="#">84</a>
<a href="#">Note 5. Fair Value Measurements</a>	<a href="#">87</a>
<a href="#">Note 6. Derivative Instruments</a>	<a href="#">89</a>
<a href="#">Note 7. Goodwill and Purchased Intangible Assets</a>	<a href="#">90</a>
<a href="#">Note 8. Other Financial Information</a>	<a href="#">91</a>
<a href="#">Note 9. Restructuring Charges</a>	<a href="#">94</a>
<a href="#">Note 10. Debt and Financing</a>	<a href="#">95</a>
<a href="#">Note 11. Equity</a>	<a href="#">97</a>
<a href="#">Note 12. Employee Benefit Plans</a>	<a href="#">99</a>
<a href="#">Note 13. Segments</a>	<a href="#">103</a>
<a href="#">Note 14. Income Taxes</a>	<a href="#">104</a>
<a href="#">Note 15. Net Income per Share</a>	<a href="#">108</a>
<a href="#">Note 16. Commitments and Contingencies</a>	<a href="#">108</a>
<a href="#">Note 17. Selected Quarterly Financial Data (Unaudited)</a>	<a href="#">111</a>
<a href="#">Note 18. Subsequent Events</a>	<a href="#">111</a>

## Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Juniper Networks, Inc.

### Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Juniper Networks, Inc. (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15(a)2 (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 22, 2019 expressed an unqualified opinion thereon.

### Adoption of ASU 2014-09

As discussed in Note 2 to the consolidated financial statements, the Company changed its method for recognizing revenue as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the amendments in ASU's 2015-14, 2016-10 and 2016-12 effective January 1, 2018.

### Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1996.  
San Jose, California

February 22, 2019

## Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Juniper Networks, Inc.

### Opinion on Internal Control over Financial Reporting

We have audited Juniper Networks, Inc.'s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Juniper Networks, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15(a)2 and our report dated February 22, 2019, expressed an unqualified opinion thereon.

### Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California  
February 22, 2019

## Management's Report on Internal Control Over Financial Reporting

The management of Juniper Networks, Inc. (the "Company") is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. The Company's internal control over financial reporting is a process designed under the supervision of the Company's principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

The Company's internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the Consolidated Financial Statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control - Integrated Framework* as published in 2013. Based on that assessment, management concluded that, as of December 31, 2018, the Company's internal control over financial reporting was effective.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2018 has been audited by Ernst & Young LLP, the independent registered public accounting firm that audits the Company's Consolidated Financial Statements, as stated in their report preceding this report, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018.



**Juniper Networks, Inc.****Consolidated Statements of Operations**  
**(In millions, except per share amounts)**

	Years Ended December 31,		
	2018	2017	2016
Net revenues:			
Product	\$ 3,107.1	\$ 3,446.2	\$ 3,528.9
Service	1,540.4	1,581.0	1,461.2
Total net revenues	4,647.5	5,027.2	4,990.1
Cost of revenues:			
Product	1,277.2	1,360.9	1,326.2
Service	629.1	594.2	559.4
Total cost of revenues	1,906.3	1,955.1	1,885.6
Gross margin	2,741.2	3,072.1	3,104.5
Operating expenses:			
Research and development	1,003.2	980.7	1,013.7
Sales and marketing	927.4	950.2	972.9
General and administrative	231.1	227.5	224.9
Restructuring charges	7.3	65.6	3.3
Total operating expenses	2,169.0	2,224.0	2,214.8
Operating income	572.2	848.1	889.7
Other expense, net	(39.5)	(36.3)	(62.3)
Income before income taxes	532.7	811.8	827.4
Income tax (benefit) provision	(34.2)	505.6	234.7
Net income	\$ 566.9	\$ 306.2	\$ 592.7
Net income per share:			
Basic	\$ 1.62	\$ 0.81	\$ 1.55
Diluted	\$ 1.60	\$ 0.80	\$ 1.53
Shares used in computing net income per share:			
Basic	349.0	377.7	381.7
Diluted	354.4	384.2	387.8

See accompanying Notes to Consolidated Financial Statements

**Juniper Networks, Inc.****Consolidated Statements of Comprehensive Income  
(In millions)**

	Years Ended December 31,		
	2018	2017	2016
Net income	\$ 566.9	\$ 306.2	\$ 592.7
Other comprehensive (loss) income, net of tax:			
Available-for-sale debt securities:			
Change in net unrealized gains and losses, net of tax benefit (provision) of \$1.0, (\$4.0), and \$0.7 for 2018, 2017, and 2016, respectively	0.6	4.5	0.8
Net realized (gains) losses reclassified into net income, net of tax provisions of zero, \$0.9, and \$0.5 for 2018, 2017, and 2016, respectively	0.9	(2.1)	(1.2)
Net change on available-for-sale debt securities, net of tax	1.5	2.4	(0.4)
Cash flow hedges:			
Change in net unrealized gains and losses, net of tax benefit (provision) of \$2.3, (\$4.4), and (\$0.8) for 2018, 2017, and 2016, respectively	(6.4)	15.7	(2.1)
Net realized (gains) losses reclassified into net income, net of tax provisions of \$0.3, \$2.4, and \$0.7 for 2018, 2017, and 2016, respectively	(1.2)	(5.2)	(1.1)
Net change on cash flow hedges, net of tax	(7.6)	10.5	(3.2)
Change in foreign currency translation adjustments	(12.4)	19.0	(14.5)
Other comprehensive (loss) income, net of tax	(18.5)	31.9	(18.1)
Comprehensive income	\$ 548.4	\$ 338.1	\$ 574.6

See accompanying Notes to Consolidated Financial Statements

**Juniper Networks, Inc.**  
**Consolidated Balance Sheets**  
(In millions, except par values)

	December 31, 2018	December 31, 2017
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 2,489.0	\$ 2,006.5
Short-term investments	1,070.1	1,026.1
Accounts receivable, net of allowance for doubtful accounts of \$4.9 and \$5.7 as of December 31, 2018 and 2017, respectively	754.6	852.0
Prepaid expenses and other current assets	268.1	299.9
Total current assets	4,581.8	4,184.5
Property and equipment, net	951.7	1,021.1
Long-term investments	199.0	988.4
Purchased intangible assets, net	118.5	128.1
Goodwill	3,108.8	3,096.2
Other long-term assets	403.5	415.5
Total assets	\$ 9,363.3	\$ 9,833.8
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 208.8	\$ 217.6
Accrued compensation	221.0	186.0
Deferred revenue	829.3	1,030.3
Short-term portion of long-term debt	349.9	—
Other accrued liabilities	233.5	304.3
Total current liabilities	1,842.5	1,738.2
Long-term debt	1,789.1	2,136.3
Long-term deferred revenue	384.3	509.0
Long-term income taxes payable	404.4	650.6
Other long-term liabilities	119.8	118.8
Total liabilities	4,540.1	5,152.9
Commitments and contingencies (Note 16)		
Stockholders' equity:		
Convertible preferred stock, \$0.00001 par value; 10.0 shares authorized; none issued and outstanding	—	—
Common stock, \$0.00001 par value; 1,000.0 shares authorized; 346.4 shares and 365.5 shares issued and outstanding as of December 31, 2018 and 2017, respectively	—	—
Additional paid-in capital	7,672.8	8,042.1
Accumulated other comprehensive loss	(18.2)	(5.4)
Accumulated deficit	(2,831.4)	(3,355.8)
Total stockholders' equity	4,823.2	4,680.9
Total liabilities and stockholders' equity	\$ 9,363.3	\$ 9,833.8

See accompanying Notes to Consolidated Financial Statements

**Juniper Networks, Inc.**  
**Consolidated Statements of Cash Flows**  
(In millions)

	Years Ended December 31,		
	2018	2017	2016
<b>Cash flows from operating activities:</b>			
Net income	\$ 566.9	\$ 306.2	\$ 592.7
Adjustments to reconcile net income to net cash provided by operating activities:			
Share-based compensation expense	217.1	187.5	224.6
Depreciation, amortization, and accretion	210.5	225.6	206.7
Deferred income taxes	42.6	(139.6)	55.9
Other	9.6	(14.5)	3.5
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable, net	96.3	203.8	(263.5)
Prepaid expenses and other assets	(70.9)	43.0	(43.6)
Accounts payable	3.5	(10.1)	66.6
Accrued compensation	41.4	(42.8)	(19.5)
Income taxes payable	(269.2)	447.3	3.1
Other accrued liabilities	(11.4)	(2.1)	(1.6)
Deferred revenue	24.7	55.0	301.7
Net cash provided by operating activities	861.1	1,259.3	1,126.6
<b>Cash flows from investing activities:</b>			
Purchases of property and equipment	(147.4)	(151.2)	(214.7)
Purchases of available-for-sale debt securities	(1,228.5)	(1,882.9)	(1,598.0)
Proceeds from sales of available-for-sale debt securities	1,070.2	944.0	1,182.1
Proceeds from maturities and redemptions of available-for-sale debt securities	910.2	741.6	342.3
Purchases of equity securities	(17.5)	(14.9)	(25.2)
Proceeds from sales of equity securities	36.9	12.4	9.5
Proceeds from Pulse note receivable	—	75.0	—
Subsequent payments related to acquisitions in prior years	(42.7)	—	—
Payments for business acquisitions, net of cash and cash equivalents acquired	(16.4)	(27.0)	(113.0)
Net cash provided by (used in) investing activities	564.8	(303.0)	(417.0)
<b>Cash flows from financing activities:</b>			
Repurchase and retirement of common stock	(756.6)	(725.8)	(324.6)
Proceeds from issuance of common stock	56.9	64.5	62.3
Payment of dividends	(249.3)	(150.4)	(152.5)
Change in customer financing arrangement	(16.9)	16.9	—
Payment of debt	—	—	(300.0)
Issuance of debt, net	—	—	494.0
Other	(2.7)	—	(15.5)
Net cash used in financing activities	(968.6)	(794.8)	(236.3)
Effect of foreign currency exchange rates on cash, cash equivalents, and restricted cash	(10.6)	17.0	(14.0)
Net increase in cash, cash equivalents, and restricted cash	446.7	178.5	459.3
Cash, cash equivalents, and restricted cash at beginning of period	2,059.1	1,880.6	1,421.3
Cash, cash equivalents, and restricted cash at end of period	\$ 2,505.8	\$ 2,059.1	\$ 1,880.6
<b>Supplemental disclosures of cash flow information:</b>			
Cash paid for interest, net of amounts capitalized	\$ 94.0	\$ 93.9	\$ 92.8
Cash paid for income taxes, net	\$ 181.0	\$ 193.5	\$ 173.9
<b>Non-cash investing and financing activities:</b>			
Construction costs for building with financing obligation	\$ —	\$ —	\$ 15.3

See accompanying Notes to Consolidated Financial Statements



**Juniper Networks, Inc.**
**Consolidated Statements of Changes in Stockholders' Equity**  
**(In millions, except per share amounts)**

	Shares	Common Stock and Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
<b>Balance at December 31, 2015</b>	384.0	\$ 8,334.8	\$ (19.2)	\$ (3,741.2)	\$ 4,574.4
Net income	—	—	—	592.7	592.7
Other comprehensive loss, net	—	—	(18.1)	—	(18.1)
Issuance of common stock	11.1	62.3	—	—	62.3
Repurchase and retirement of common stock	(14.0)	(191.3)	—	(133.3)	(324.6)
Share-based compensation expense	—	222.4	—	—	222.4
Tax effects from employee stock option plans	—	5.9	—	—	5.9
Payment of cash dividends (\$0.40 per share of common stock)	—	(152.5)	—	—	(152.5)
<b>Balance at December 31, 2016</b>	381.1	8,281.6	(37.3)	(3,281.8)	4,962.5
Net income	—	—	—	306.2	306.2
Other comprehensive income, net	—	—	31.9	—	31.9
Issuance of common stock	10.7	64.5	—	—	64.5
Repurchase and retirement of common stock	(26.3)	(354.6)	—	(371.2)	(725.8)
Share-based compensation expense	—	188.2	—	—	188.2
Payment of cash dividends (\$0.40 per share of common stock)	—	(150.4)	—	—	(150.4)
Cumulative adjustment for share-based compensation expense upon adoption of Accounting Standards Update ("ASU") 2016-09, net of tax	—	12.8	—	(9.0)	3.8
<b>Balance at December 31, 2017</b>	365.5	8,042.1	(5.4)	(3,355.8)	4,680.9
Net income	—	—	—	566.9	566.9
Other comprehensive loss, net	—	—	(18.5)	—	(18.5)
Issuance of common stock	10.4	56.9	—	—	56.9
Repurchase and retirement of common stock	(29.5)	(395.1)	—	(361.5)	(756.6)
Share-based compensation expense	—	218.2	—	—	218.2
Payments of cash dividends (\$0.72 per share of common stock)	—	(249.3)	—	—	(249.3)
Cumulative adjustment upon adoption of ASU 2014-09 ("Topic 606"), net	—	—	—	324.7	324.7
Reclassification of tax effects upon adoption of ASU 2018-02	—	—	5.7	(5.7)	—
<b>Balance at December 31, 2018</b>	346.4	\$ 7,672.8	\$ (18.2)	\$ (2,831.4)	\$ 4,823.2

See accompanying Notes to Consolidated Financial Statements

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements**

**Note 1. Description of Business and Basis of Presentation**

*Description of Business*

Juniper Networks, Inc. (the “Company” or “Juniper”) designs, develops, and sells products and services for high-performance networks, to enable customers to build scalable, reliable, secure and cost-effective networks for their businesses, while achieving agility and improved operating efficiency through automation. The Company sells high-performance routing, switching, and security networking products and service offerings to customers within its verticals: Cloud, Service Provider, and Enterprise who view the network as critical to their success.

*Basis of Presentation*

The Consolidated Financial Statements, which include the Company and its wholly-owned subsidiaries, are prepared in accordance with U.S. generally accepted accounting principles (“U.S. GAAP”). All intercompany balances and transactions have been eliminated.

The Company adopted Financial Accounting Standards Board (“FASB”) ASU No. 2016-18 (Topic 230) *Statement of Cash Flow: Restricted Cash*, effective January 1, 2018, using the retrospective transition method. Restricted cash of \$47.4 million and \$52.6 million has been included within cash, cash equivalents, and restricted cash when reconciling the beginning and ending total amounts, respectively, on the statement of cash flows for the year ended December 31, 2017, and restricted cash of \$0.4 million and \$47.4 million has been included within cash, cash equivalents, and restricted cash when reconciling the beginning and ending total amounts, respectively, on the statement of cash flows for the year ended December 31, 2016, to conform to the current period presentation. The adoption did not have a material impact on the cash flow activity presented on the Company’s Consolidated Statement of Cash Flows for the years ended December 31, 2017 and 2016. See Note 4, *Cash Equivalents and Investments*, for a reconciliation of the cash balances within the Consolidated Statements of Cash Flows to the Consolidated Balance Sheets.

**Note 2. Significant Accounting Policies**

*Use of Estimates*

The preparation of the financial statements and related disclosures in accordance with U.S. GAAP requires the Company to make judgments, assumptions, and estimates that affect the amounts reported in the Consolidated Financial Statements and the accompanying notes. The Company bases its estimates and assumptions on current facts, historical experience, and various other factors that it believes are reasonable under the circumstances, to determine the carrying values of assets and liabilities that are not readily apparent from other sources. To the extent there are material differences between the Company’s estimates and the actual results, the Company’s future consolidated results of operation may be affected.

*Cash, Cash Equivalents, and Investments*

*Cash and Cash Equivalents*

Cash and cash equivalents consist of cash on hand, demand deposits with banks, highly liquid investments in money market funds, commercial paper, government securities, certificates of deposits, time deposits, and corporate debt securities, which are readily convertible into cash. All highly liquid investments with original maturities of three months or less from Juniper’s purchase date are classified as cash equivalents.

*Investments in Available-for-Sale Debt Securities*

The Company’s investments in debt securities are classified as available-for-sale and include the Company’s fixed income securities and investments in privately-held companies, consisting of debt and redeemable preferred stock securities. Fixed income securities are initially recorded at cost and periodically adjusted to fair value in the Consolidated Balance Sheets. Unrealized gains and losses on these investments are reported as a separate component of accumulated other comprehensive loss in the Consolidated Balance Sheets. Realized gains and losses are determined based on the specific identification method and are reported in the Consolidated Statements of Operations.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

Fixed income securities primarily consist of asset-backed securities, certificate of deposits, commercial paper, corporate debt securities, time deposits, foreign government debt securities, U.S. government agency securities, and U.S. treasury securities. The Company periodically evaluates these investments to determine if impairment charges are required. The Company considers various factors in determining whether to recognize an impairment charge, including the length of time the investment has been in a loss position, the extent to which the fair value has been less than the Company's cost basis, the investment's financial condition, and the near-term prospects of the investee. If the Company determines that the decline in an investment's value is other than temporary, the difference is recognized as an impairment loss in its Consolidated Statements of Operations.

The Company's privately-held debt and redeemable preferred stock securities are included in other long-term assets in the Consolidated Balance Sheets and are recorded at fair value. Fair value is reassessed when the Company is made aware of information indicating a change in the enterprise value of the investee, including known acquisition offers, subsequent funding rounds, and investee's plans for liquidation. The Company periodically evaluates these securities for indicators of impairment, including the inability to recover a portion of or the entire carrying amount of the investment, the inability of the investee to sustain earnings, the reduction in or termination of financial commitment to the investee from other investors, the intention to sell the investment, and whether it is more likely than not that the Company will be required to sell the investment before recovery of the entire amortized cost basis. If the Company determines that the decline in an investment's value is other than temporary, the difference is recognized as an impairment loss in its Consolidated Statements of Operations.

#### *Investments in Equity Securities*

The Company's investments in equity securities with readily determinable fair values consist of money market funds, the non-qualified compensation plan ("NQDC") that is invested in mutual funds, and investments in public companies. These investments are measured at fair value with changes in fair value recognized in the Consolidated Statements of Operations.

Equity securities without readily determinable fair values include the Company's investments in privately-held companies consisting of non-redeemable preferred stock and common stock securities. The Company accounts for these securities at cost, adjusted for changes from observable transactions for identical or similar investments of the same issuer, less impairments. Fair value of these equity securities is reassessed when the Company identifies observable price changes indicating that an adjustment upward or downward to the carrying value is necessary. Any observable changes in fair value are recognized in earnings as of the date that the observable transaction took place, rather than the current reporting date. In addition, the Company periodically evaluates equity securities without readily determinable fair values to determine if impairment charges are required by evaluating whether an event or change in circumstance has occurred that may have a significant adverse effect on the fair value of the investment. A qualitative assessment is performed each reporting period to assess whether there are any impairment indicators, including, but not limited to, significant deterioration in the investee's earnings performance; credit rating; asset quality or business prospects; adverse change in the regulatory, economic, or technological environment; change in the general market condition of the geographic area or industry; acquisition offers; and the ability to continue as a going concern. If such indicators are present, the Company estimates the fair value of impaired investments and recognizes an impairment loss in the Consolidated Statement of Operations equal to the difference between the carrying value and fair value.

#### ***Fair Value***

Fair value is defined as the price that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining fair value, the Company considers the principal or most advantageous market in which it transacts, and considers assumptions that market participants would use when pricing the asset or liability. The Company applies the following fair value hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1 – Quoted prices in active markets for identical assets or liabilities.

Level 2 – Quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. These inputs are valued using market based approaches.

Level 3 – Inputs are unobservable inputs based on the Company's assumptions. These inputs, if any, are valued using internal financial models.



**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Derivatives**

The Company uses derivatives to partially offset its market exposure to fluctuations in certain foreign currencies. The Company does not enter into derivatives for speculative or trading purposes.

The Company uses foreign currency forward contracts to hedge certain forecasted foreign currency transactions relating to operating expenses. These derivatives are designated as cash flow hedges. These derivatives are carried at fair value and the effective portion of the derivative's gain or loss is initially reported as a component of accumulated other comprehensive loss, and upon occurrence of the forecasted transaction, is subsequently reclassified into the costs of services or operating expense line item to which the hedged transaction relates. The Company records any ineffectiveness of the hedging instruments in other expense, net, on its Consolidated Statements of Operations. Cash flows from such hedges are classified as operating activities.

The Company also uses foreign currency forward contracts to mitigate variability in gains and losses generated from the re-measurement of certain monetary assets and liabilities denominated in non-functional currencies. These derivatives are carried at fair value with changes recorded in other expense, net in the Consolidated Statements of Operations in the same period as the changes in the fair value from the re-measurement of the underlying assets and liabilities. Cash flows from such derivatives are classified as operating activities.

The Company presents its derivative assets and derivative liabilities on a gross basis in the Consolidated Balance Sheets. However, under agreements containing provisions on netting with certain counterparties of foreign exchange contracts, subject to applicable requirements, the Company is allowed to net-settle transactions on the same date in the same currency, with a single net amount payable by one party to the other. The Company is neither required to pledge nor entitled to receive cash collateral related to these derivative transactions.

**Inventory**

Inventory consists primarily of component parts to be used in the manufacturing process and finished goods in-transit, and is stated at the lower of cost or net realizable value. Cost is computed using standard cost, which approximates actual cost, on a first-in, first-out basis. A charge is recorded to cost of product when inventory is determined to be in excess of anticipated demand or considered obsolete. At the point of loss recognition, a new, lower-cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in the newly established cost basis.

**Property and Equipment**

Property and equipment are recorded at cost less accumulated depreciation. Depreciation is calculated using the straight-line method, over the estimated useful lives of the following assets:

	<b>Estimated Useful Life (years)</b>
Computers, equipment, and software	1.5 to 7
Furniture and fixtures	5 to 7
Building and building improvements	7 to 40
Land improvements	10 to 40
Leasehold improvements	Lease term, not to exceed 10 years

Construction in progress is related to the construction or development of property and equipment that have not yet been placed in service for their intended use.

**Goodwill and Other Long-Lived Assets**

Goodwill represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recorded. The excess of the purchase price over the estimated fair value of net assets of businesses acquired in a business combination is recognized as goodwill. Goodwill is tested for impairment annually during the fourth quarter or more frequently if certain circumstances indicate the carrying value of goodwill is impaired. A qualitative assessment is first made to determine whether it is necessary to quantitatively test goodwill for impairment. This initial assessment includes, among others, consideration of macroeconomic conditions and financial performance. If the qualitative assessment indicates that it is more likely than not that an impairment exists, a quantitative analysis is performed by determining the fair value of each reporting unit using a combination of the income approach and the market approach. Based on the outcome of the quantitative

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

assessments, the Company compares the estimated fair value of each reporting unit with their respective carrying values, including goodwill. An impairment loss is recognized to the extent that the carrying amount of goodwill exceeds the asset's implied fair value.

Other intangible assets acquired in a business combination related to in-process research and development ("IPR&D") projects are considered to be indefinite-lived until the completion or abandonment of the associated research and development efforts. Indefinite-lived intangibles are not amortized into the results of operations but instead are evaluated for impairment. If and when development is complete, the associated assets would be deemed finite-lived and would be amortized as cost of revenues over their respective estimated useful lives at that point in time. If the research and development project is abandoned, the acquired IPR&D assets are written off and charged to expense in the period of abandonment.

Long-lived assets, such as property, plant, and equipment, and purchased intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset, or asset group, to estimated undiscounted future cash flows expected to be generated by the asset, or asset group. An impairment charge is recognized by the amount by which the carrying amount of the asset, or asset group, exceeds its fair value.

The Company amortizes intangible assets with estimable useful lives on a straight-line basis over their useful lives.

### **Revenue Recognition**

Revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services by following a five-step process, (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price, and (5) recognize revenue when or as the Company satisfies a performance obligation, as further described below.

*Identify the contract with a customer* . The Company generally considers a sales contract or agreement with an approved purchase order as a customer contract provided that collection is considered probable, which is assessed based on the creditworthiness of the customer as determined by credit checks, payment histories, and/or other circumstances. The Company combines contracts with a customer if contracts are negotiated with a single commercial substance or contain price dependencies.

*Identify the performance obligations in the contract* . Product performance obligations include hardware and software licenses and service performance obligations include maintenance, software post-contract support, training, and professional services. Certain software licenses and related post-contract support are combined into a single performance obligation when the maintenance updates are critical to the continued functionality of the software.

*Determine the transaction price* . The transaction price for the Company's contracts with its customers consists of both fixed and variable consideration provided it is probable that a significant reversal of revenue will not occur when the uncertainty related to variable consideration is resolved. Fixed consideration includes amounts to be contractually billed to the customer while variable consideration includes estimates for rights of return, rebates, and price protection, which are based on historical sales returns and price protection credits, specific criteria outlined in rebate agreements, and other factors known at the time. The Company generally invoices customers for hardware, software licenses and related maintenance arrangements at time of delivery, and professional services either upfront or upon meeting certain milestones. Customer invoices are generally due within 30 to 90 days after issuance. The Company's contracts with customers typically do not include significant financing components as the period between the transfer of performance obligations and timing of payment are generally within one year.

*Allocate the transaction price to the performance obligations in the contract* . For contracts that contain multiple performance obligations, the Company allocates the transaction price to the performance obligations on a relative standalone selling price basis. Standalone selling prices are based on multiple factors including, but not limited to historical discounting trends for products and services, pricing practices in different geographies and through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, and industry technology lifecycles.

*Recognize revenue when or as the Company satisfies a performance obligation* . Revenue for hardware and certain software licenses, are recognized at a point in time, which is generally upon shipment or delivery. Certain software licenses combined with post-contract support are recognized over time on a ratable basis over the term of the license. Revenue for maintenance and software

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

post-contract support is recognized over time on a ratable basis over the contract term. Revenue from training and professional services is recognized over time as services are completed or ratably over the contractual period of generally one year or less.

***Deferred Commissions***

Sales commissions earned by the Company's sales force are considered incremental and recoverable costs of obtaining a contract with a customer. These costs are deferred and then amortized over a period of benefit which is typically over the term of the customer contracts as initial commission rates and renewal rates are the same. Amortization expense is included in sales and marketing expenses in the accompanying Consolidated Statements of Operations.

***Allowance for Doubtful Accounts***

The allowance for doubtful accounts is based on the Company's assessment of the collectability of customer accounts. The Company regularly reviews its receivables that remain outstanding past their applicable payment terms and establishes an allowance by considering factors such as historical experience, credit quality, and age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay.

***Warranty Reserves***

The Company generally offers a one -year warranty on most of its hardware products, and a 90 -day warranty on the media that contains the software embedded in the products. Warranty costs are recognized as part of the Company's cost of sales based on associated material costs, logistics costs, labor costs, and overhead at the time revenue is recognized. Material costs are estimated primarily based upon the historical costs to repair or replace product returns within the warranty period. Labor, logistics and overhead costs are estimated primarily based upon historical trends in the cost to support customer cases within the warranty period.

***Contract Manufacturer Liabilities***

The Company establishes a liability for non-cancelable, non-returnable purchase commitments with its contract manufacturers for carrying charges, quantities in excess of its demand forecasts, or obsolete material charges for components purchased by the contract manufacturers to meet the Company's demand forecast or customer orders. The demand forecasts are based upon historical trends and analysis from the Company's sales and marketing organizations, adjusted for overall market conditions.

***Research and Development***

Costs to research, design, and develop the Company's products are expensed as incurred.

***Software Development Costs***

Capitalization of software development costs for software to be sold, leased, or otherwise marketed begins when a product's technological feasibility has been established and ends when a product is available for general release to customers. Generally, the Company's products are released soon after technological feasibility has been established. As a result, costs incurred between achieving technological feasibility and product general availability have not been significant.

The Company capitalizes costs associated with internal-use software systems during the application development stage. Such capitalized costs include external direct costs incurred in developing or obtaining the applications and payroll and payroll-related costs for employees, who are directly associated with the development of the applications.

***Advertising***

Advertising costs are charged to sales and marketing expense as incurred. Advertising expense was \$20.0 million , \$19.9 million , and \$15.8 million , for 2018 , 2017 , and 2016 , respectively.

***Foreign Currency***

Assets and liabilities of foreign operations with non-U.S. Dollar functional currency are translated to U.S. Dollars using exchange rates in effect at the end of the period. Revenue and expenses are translated to U.S. Dollars using rates that approximate those in

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

effect during the period. The resulting translation adjustments are included in the Company's Consolidated Balance Sheets in the stockholders' equity section as a component of accumulated other comprehensive loss. The Company records foreign exchange transaction gains and losses for assets and liabilities denominated in non-functional currencies. These remeasurement adjustments are recorded in other expense, net in the Consolidated Statements of Operations.

***Loss Contingencies***

The Company is subject to the possibility of various loss contingencies arising in the ordinary course of business. Management considers the likelihood of loss related to an asset, or the incurrence of a liability, as well as its ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired or a liability has been incurred and the amount of loss can be reasonably estimated. The Company regularly evaluates current information available to determine whether such accruals should be adjusted and whether new accruals are required.

***Share-Based Compensation***

The Company measures and recognizes compensation cost for all share-based awards made to employees and directors, including employee stock options, restricted stock awards ("RSAs"), restricted stock units ("RSUs"), performance share awards ("PSAs") and employee stock purchases related to the Employee Stock Purchase Plan ("ESPP"). For service condition only awards, share-based compensation expense is based on the fair value of the underlying awards and amortized on a straight-line basis. For PSAs and market-based RSUs, share-based compensation expense is amortized on a straight-line basis for each separate vesting portion of the awards. The Company accounts for forfeitures as they occur.

The Company utilizes the Black-Scholes-Merton ("BSM") option-pricing model to estimate the fair value of its ESPP purchase rights. The BSM model requires various highly subjective assumptions that represent management's best estimates of volatility, risk-free interest rate, expected life, and dividend yield. The Company estimates expected volatility based on the implied volatility of market-traded options, on the Company's common stock, adjusted for other relevant factors including historical volatility of the Company's common stock over the most recent period commensurate with the estimated expected life of the Company's ESPP. The expected life of ESPP purchase rights approximates the offering period.

The Company determines the grant date fair value of its RSUs, RSAs, and PSAs based on the closing market price of the Company's common stock on the date of grant, adjusted by the present value of the dividends expected to be paid on the underlying shares of common stock during the requisite and derived service period as these awards are not entitled to receive dividends until vested.

For market-based RSUs, the Company estimates the fair value and derived service period using the Monte Carlo simulation option pricing model ("Monte Carlo model"). The determination of the grant date fair value and derived service periods using the Monte Carlo model is affected by the Company's stock price, comparative market-based returns, as well as various highly subjective assumptions that represent management's best estimates of volatility, risk-free interest rate, and dividend yield. The Company estimates expected volatility based on the implied volatility of market-traded options, on the Company's common stock, adjusted for other relevant factors including historical volatility of the Company's common stock over the contractual life of the Company's market-based RSUs.

***Provision for Income Taxes***

Deferred tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized.

The Company accounts for uncertainty in income taxes using a two-step approach to recognize and measure uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement. The Company classifies the liability for unrecognized tax benefits as current to the extent that the Company anticipates payment (or receipt) of cash within one year. Interest and penalties related to uncertain tax positions are recognized in the provision for income taxes.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Concentrations of Risk**

Financial instruments that subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, investments, derivatives, and accounts receivable. The Company invests only in high-quality credit instruments and maintains its cash, cash equivalents and available-for-sale investments in fixed income securities with several high-quality institutions. Deposits held with banks, including those held in foreign branches of global banks, may exceed the amount of insurance provided on such deposits. We mitigate the concentration of credit risk in our investment portfolio through diversification of the investments in various industries and asset classes, and limits to the amount of credit exposure to any single issuer and credit rating.

The Company's derivatives expose it to credit risk to the extent that counterparties may be unable to meet the terms of the agreement. To mitigate concentration of risk related to its derivatives, the Company establishes counterparty limits to major credit-worthy financial institutions. In addition, the potential risk of loss with any one counterparty resulting from this type of credit risk is monitored and the derivatives transacted with these entities are relatively short in duration. Therefore, the Company does not expect material losses as a result of defaults by counterparties.

Generally, credit risk with respect to accounts receivable is diversified due to the number of entities comprising the Company's customer base and their dispersion across different geographic locations throughout the world. The Company performs ongoing credit evaluations of its customers and generally does not require collateral on accounts receivable. During the years ended December 31, 2018, 2017, and 2016, no single customer accounted for 10% or more of net revenues.

The Company relies on sole suppliers for certain of its components such as application-specific integrated circuits ("ASICs") and custom sheet metal. Additionally, the Company relies primarily on a limited number of significant independent contract manufacturers and original design manufacturers for the production of its products. The inability of any supplier or manufacturer to fulfill supply requirements of the Company could negatively impact future operating results.

**Recently Adopted Accounting Standard**

**Comprehensive Income:** Effective January 1, 2018, the Company early adopted FASB ASU No. 2018-02 (Topic 220), *Income Statement - Reporting Comprehensive Income*, issued in February 2018, with an election to reclassify stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act (the "Tax Act"), from accumulated other comprehensive income to retained earnings. The adoption resulted in a reclassification of \$5.7 million in income from accumulated other comprehensive loss to accumulated deficit as of the adoption date. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

**Financial Instruments:** On January 1, 2018, the Company adopted FASB ASU No. 2016-01, *Financial Instruments—Overall: Recognition and Measurement of Financial Assets and Financial Liabilities* and FASB ASU No. 2018-03, *Technical Corrections and Improvements to Financial Instruments - Overall*, which changes how entities classify and measure equity investments and present changes in the fair value of financial liabilities measured under the fair value option. The guidance also updates certain presentation and disclosure requirements. The Company adopted ASU 2016-01 as of January 1, 2018 using the modified retrospective method for its equity securities with readily determinable fair values and the prospective method for its equity securities without readily determinable fair values, resulting in no impact to the opening accumulated deficit balance. The Company has elected to use the measurement alternative for its equity investments without readily determinable fair value, defined as cost adjusted for changes from observable transactions for identical or similar investments of the same issuer, less impairment. See Note 4, *Cash Equivalents and Investments* for additional disclosures required upon adopting the standard.

**Revenue Recognition:** On January 1, 2018, the Company adopted FASB ASU No. 2014-09 (Topic 606) - *Revenue from Contracts with Customers* ("ASU 2014-09" or "Topic 606"), which provides guidance for revenue recognition that superseded the revenue recognition requirements in Accounting Standards Codification ("ASC") Topic 605, *Revenue Recognition* ("Topic 605") and most industry specific guidance. Under ASU 2014-09, revenue is recognized when promised goods or services are transferred to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The Company adopted ASU 2014-09 under the modified retrospective approach, applying the amendments to prospective reporting periods. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with the historic accounting under Topic 605.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The cumulative effect of the changes made to the Company's Consolidated Balance Sheet as of January 1, 2018 for the adoption of Topic 606 to all contracts with customers that were not completed as of December 31, 2017 was recorded as an adjustment to accumulated deficit as of the adoption date as follows:

	December 31, 2017		Adjustments	January 1, 2018	
	As reported			As adjusted	
Assets:					
Accounts receivable, net of allowances	\$ 852.0		\$ (1.9)		\$ 850.1
Prepaid expenses and other current assets	299.9		31.5		331.4
Other long-term assets	415.5		(21.1)		394.4
Total assets	\$ 9,833.8		\$ 8.5		\$ 9,842.3
Liabilities:					
Deferred revenue	\$ 1,030.3		\$ (225.4)		\$ 804.9
Other accrued liabilities	304.3		33.8		338.1
Long-term deferred revenue	509.0		(124.6)		384.4
Total liabilities	\$ 5,152.9		\$ (316.2)		\$ 4,836.7
Stockholders' Equity:					
Accumulated deficit	\$ (3,355.8)		\$ 324.7		\$ (3,031.1)

Upon adoption, the Company recorded a cumulative effect adjustment of \$324.7 million, net of tax adjustment of \$63.9 million, which decreased the January 1, 2018 opening accumulated deficit balance on the Consolidated Balance Sheet, primarily as a result of the following items:

- *Distributor Sales* : Under Topic 606, the Company recognizes revenue from sales to distributors upon delivery of the product to the distributor, rather than upon delivery of the product to the end-customer. Rebates and incentives offered to distributors, which are earned when sales to end-customers are completed, are estimated at the point of revenue recognition.
- *Software Revenue* : Under Topic 605, the Company deferred revenue for software licenses where vendor-specific objective evidence of fair value had not been established for undelivered items (primarily services). Under Topic 606, revenue for software licenses is recognized at the time of delivery unless the ongoing services provide frequent, critical updates to the software, without which the software functionality would be rapidly diminished.
- *Variable Consideration* : Some of the Company's contracts include penalties, extended payment terms, acceptance provisions or other price variability that precluded revenue recognition under Topic 605 because of the requirement for amounts to be fixed or determinable. Topic 606 requires the Company to estimate and account for variable consideration as a reduction of the transaction price.
- *Revenue Allocation* : Similar to Topic 605, Topic 606 requires an allocation of revenue between deliverables, or performance obligations, within an arrangement. Topic 605 restricted the allocation of revenue that is contingent on future deliverables to current deliverables; however, Topic 606 removes this restriction. In addition, the nature of the performance obligations identified within a contract under Topic 606 as compared to Topic 605 will impact the allocation of the transaction price between product and services.
- *Contract Acquisition Costs* : Topic 606 requires the deferral and amortization of "incremental" costs incurred to obtain a contract where the associated contract duration is greater than one year. The primary contract acquisition cost for the Company are sales commissions. Prior to January 1, 2018, the Company expensed sales commissions. The change required by Topic 606 resulted in the creation of an asset on January 1, 2018.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The impact of the adoption of Topic 606 on the Company's Consolidated Statements of Operations and Consolidated Balance Sheet was as follows (in millions):

	Year Ended December 31, 2018*		
	As Reported	Without Adoption of Topic 606	Topic 606 Impact
Net revenues:			
Product	\$ 3,107.1	\$ 3,006.8	\$ 100.3
Service	1,540.4	1,663.3	(122.9)
Total net revenues	\$ 4,647.5	\$ 4,670.1	\$ (22.6)
Operating expenses:			
Sales and marketing	\$ 927.4	\$ 929.3	\$ (1.9)

\* Except as disclosed, the adoption of Topic 606 did not have a material impact on the Company's Consolidated Statements of Operations for the year ended December 31, 2018.

	As of December 31, 2018		
	As Reported	Without Adoption of Topic 606	Topic 606 Impact
Assets:			
Accounts receivable, net of allowances	\$ 754.6	\$ 746.3	\$ 8.3
Prepaid expenses and other current assets	268.1	241.6	26.5
Other long-term assets	403.5	400.4	3.1
Total assets	\$ 9,363.3	\$ 9,325.6	\$ 37.7
Liabilities:			
Deferred revenue	\$ 829.3	\$ 1,111.9	\$ (282.6)
Other accrued liabilities	233.5	178.6	54.9
Long-term deferred revenue	384.3	431.8	(47.5)
Total liabilities	\$ 4,540.1	\$ 4,815.2	\$ (275.1)
Stockholders' Equity:			
Accumulated deficit	\$ (2,831.4)	\$ (3,144.3)	\$ 312.9

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

***Recent Accounting Standards Not Yet Adopted***

***Cloud Computing Arrangement:*** In August 2018, the FASB issued ASU No. 2018-15 (Subtopic 350-40) *Intangibles — Goodwill and Other-Internal-Use Software: Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, which provides guidance on a customer's accounting for implementation, set-up, and other upfront costs incurred in a cloud computing arrangement that is hosted by a service contract. The new standard is to be applied on either a retrospective or prospective basis to all implementation costs incurred after the date of adoption. The standard is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. The Company early adopted the standard effective January 1, 2019 and will prospectively apply the standard to all implementation costs incurred after the adoption date.

***Fair Value Measurement:*** In August 2018, the FASB issued ASU No. 2018-13 (Topic 820) *Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement*, which eliminates, adds, and modifies certain disclosure requirements for fair value measurements under ASC 820. This ASU is to be applied on a prospective basis for certain modified or new disclosure requirements, and all other amendments in the standard are to be applied on a retrospective basis. The new standard is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of adoption on the Consolidated Financial Statements.

***Derivatives and Hedging:*** In August 2017, the FASB issued ASU No. 2017-12 (Topic 815) *Derivatives and Hedging — Targeted Improvements to Accounting for Hedging Activities*, and an amendment thereafter, which expands an entity's ability to hedge financial and nonfinancial risk components and amends how companies assess effectiveness as well as changes the presentation and disclosure requirements. The new standard is to be applied on a modified retrospective basis, and its amendment and presentation and disclosure requirements will be applied on a prospective basis. This standard along with its amendment is effective for interim and annual periods beginning after December 15, 2018, with early adoption permitted. The Company does not expect the adoption to have a material impact on the Consolidated Financial Statements.

***Amortization on Purchased Callable Debt Securities:*** In March 2017, the FASB issued ASU No. 2017-08 *Receivables—Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities* which shortens the amortization period for the premium on certain purchased callable debt securities to the earliest call date. The ASU will not impact debt securities held at a discount. This standard is effective for annual reporting periods beginning after December 15, 2018, including interim reporting periods within those annual reporting periods, and is to be applied on a modified retrospective basis with early adoption permitted. The adoption of this standard will not have an impact on the Consolidated Financial Statements.

***Simplifying the Test for Goodwill Impairment:*** In January 2017, the FASB issued ASU No. 2017-04 (Topic 350) *Intangibles—Goodwill and Other: Simplifying the Test for Goodwill Impairment*, which removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Under the amended guidance, a goodwill impairment charge will now be recognized for the amount by which the carrying value of a reporting unit exceeds its fair value, not to exceed the carrying amount of goodwill. This ASU will be applied on a prospective basis and is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted for any impairment tests performed after January 1, 2017. The Company does not expect the adoption to have a material impact on the Consolidated Financial Statements.

***Credit Losses on Financial Instruments:*** In June 2016, the FASB issued ASU No. 2016-13 (Topic 326) *Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments*, which provides more decision-useful information about the expected credit losses on financial instruments and changes the loss impairment methodology. Further amendment issued by the FASB in November 2018 clarifies that receivables arising from operating leases are not within the scope of Topic 326 and should be accounted for in accordance with Topic 842. This pronouncement and its amendment are effective for reporting periods beginning after December 15, 2019, and interim periods within those fiscal years, using a modified retrospective adoption method. Early adoption is permitted. The Company is currently evaluating the impact of adoption on the Consolidated Financial Statements.

***Leases:*** In February 2016, the FASB issued ASU No. 2016-02 (Topic 842), *Leases*, and several amendments thereafter, which require recognition of right-of-use ("ROU") assets and lease liabilities for most leases on the Consolidated Balance Sheets by lessees. The guidance also requires enhanced disclosures. The ASU is effective for annual reporting periods beginning after December 15, 2018.



**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The Company has adopted the standard on January 1, 2019 under the modified retrospective approach. Upon adoption, the Company elected:

- the package of practical expedients which allows for not reassessing (1) whether existing contracts contain leases, (2) the lease classification for existing leases, and (3) whether existing initial direct costs meet the new definition.
- the practical expedient in ASC Subtopic 842-10 to not separate non-lease components from lease components and instead account for each separate lease component and non-lease components associated with that lease component as a single lease component by class of the underlying asset.
- not to recognize ROU assets and lease liabilities for short-term leases, which have a lease term of twelve months or less and do not include an option to purchase the underlying asset that the Company is reasonably certain to exercise.

The adoption of the standard resulted in recognition of ROU assets and lease liabilities of approximately \$200.0 million and \$230.0 million, respectively, on the Company's Consolidated Balance Sheets, primarily relating to real estate operating leases. The adoption of the standard did not result in a material impact on the Company's Consolidated Statements of Operations. Additionally, the adoption of the standard had no impact on the Company's debt-covenant compliance under its current agreements.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 3. Business Combinations**

The Company's Consolidated Financial Statements include the operating results of acquired businesses from the date of each acquisition. Pro forma results of operations for these acquisitions have not been presented as the financial impact to the Company's consolidated results of operations, both individually and in aggregate, is not material. The primary areas of the preliminary purchase price allocation that are subject to change relate to certain legal and income tax matters and residual goodwill.

The Company acquired HTBase Corporation ("HTBase") in 2018; Cyphort Inc. ("Cyphort") in 2017; and AppFormix, Inc. ("AppFormix"), Aurrion, Inc. ("Aurrion"), and BTI Systems Inc. ("BTI") in 2016. The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition dates (in millions):

	2018	2017	2016		
	HTBase <sup>(1)</sup>	Cyphort <sup>(2)</sup>	AppFormix	Aurrion	BTI <sup>(2)</sup>
Net tangible assets acquired/(liabilities) assumed	\$ (1.0)	\$ 1.4	\$ (5.3)	\$ 6.0	\$ (19.7)
Intangible assets	7.8	15.4	20.3	49.0	43.3
Goodwill <sup>(3)</sup>	14.4	16.7	32.9	46.9	20.2
Total	\$ 21.2	\$ 33.5	\$ 47.9	\$ 101.9	\$ 43.8

<sup>(1)</sup> The primary areas of the preliminary purchase price allocation that are subject to change relate to certain legal and income tax matters.

<sup>(2)</sup> See Note 7, *Goodwill and Purchased Intangible Assets*, for adjustments made during the measurement period subsequent to the acquisition dates.

<sup>(3)</sup> The goodwill recognized for these acquisitions was primarily attributable to expected synergies and is not deductible for U.S. federal income tax purposes.

The following table summarizes the fair value of the separately identifiable intangible assets at the time of acquisition and the period over which each intangible asset will be amortized (in millions, except years):

	2018		2017		2016					
	HTBase		Cyphort		AppFormix		Aurrion		BTI	
	Weighted Average Estimated Useful Life (In Years)	Amount	Weighted Average Estimated Useful Life (In Years)	Amount	Weighted Average Estimated Useful Life (In Years)	Amount	Weighted Average Estimated Useful Life (In Years)	Amount	Weighted Average Estimated Useful Life (In Years)	Amount
Finite-lived intangible assets:										
Existing technology	4	\$ 7.8	5	\$ 15.4	5	\$ 20.1	—	\$ —	8	\$ 37.1
Customer relationships	—	—	—	—	1	0.2	—	—	8	5.3
Other	—	—	—	—	—	—	—	—	1	0.9
Total intangible assets with finite lives		7.8		15.4		20.3		—		43.3
Indefinite-lived intangible assets:										
IPR&D		—		—		—		49.0		—
Total intangible assets acquired		\$ 7.8		\$ 15.4		\$ 20.3		\$ 49.0		\$ 43.3

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**2018 Acquisition**

*HTBase*

On December 7, 2018, the Company acquired 100% of the equity of HTBase for \$19.6 million of cash. The acquisition of HTBase, a software company that has developed a unique and disruptive platform for software-defined enterprise multicloud, is expected to accelerate Juniper's leadership in multicloud and function with the compute orchestration capabilities of Contrail Enterprise Multicloud.

Prior to the acquisition, the Company had an outstanding promissory note and bridge notes totaling \$1.6 million, measured at fair value, which were effectively settled upon acquisition.

Under the terms of the acquisition agreement with HTBase, the Company granted certain share-based awards to continuing employees in substitution of awards held by such employees, which were granted in contemplation of future services. The fair value of these share-based awards was \$3.8 million, which will be expensed as share-based compensation over the remaining service period.

**2017 Acquisition**

*Cyphort*

On September 18, 2017, the Company acquired 100% of Cyphort for \$33.5 million of cash. The acquisition of Cyphort, a software company providing security analytics for advanced threat defense, is expected to strengthen Juniper's security product portfolio.

Under the terms of the acquisition agreement with Cyphort, the Company assumed certain share-based awards for continuing employees, which were granted in contemplation of future services. The fair value of these share-based awards was \$3.8 million, which will be expensed as share-based compensation over the remaining service period.

**2016 Acquisitions**

*AppFormix*

On December 6, 2016, the Company acquired 100% of AppFormix for \$47.9 million of cash. AppFormix was a company focused on cloud infrastructure optimization software. The Company acquired AppFormix on the expectation that it would complement the analytics and capabilities of Contrail and help its customers enhance their cloud operations.

Under the terms of the acquisition agreement, the Company assumed share-based awards for continuing employees from the acquisition of AppFormix, which were granted in contemplation of future services. The fair value of these share-based awards was \$23.9 million, which will be expensed as share-based compensation over the remaining service period.

*Aurion*

On August 9, 2016, the Company acquired the remaining ownership interest in Aurion, increasing its ownership from 18% to 100%, for \$74.3 million of cash. Aurion, was a privately-held provider of fabless silicon photonic technology. The Company acquired Aurion on the expectation that it would strengthen the Company's long-term competitive advantage in cost-effective, high-density, high-speed networks.

Prior to the acquisition, the Company had a pre-existing investment in Aurion's equity and also held convertible debt that were remeasured to fair value of \$17.2 million and \$10.4 million, respectively, based upon the perspective of a market participant when estimating the fair value.

Under the terms of the acquisition agreement, the Company assumed share-based awards for continuing employees from the acquisition of Aurion, which were granted in contemplation of future services. The fair value of these share-based awards was \$55.0 million, which will be expensed as share-based compensation over the remaining service period.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

Additionally, the Company acquired IPR&D consisting of existing research and development projects that had not yet reached technological feasibility at the time of the acquisition. The acquired IPR&D involves technology for cost-effective, high-speed networks. The IPR&D was valued using the multi-period excess earnings method under the income approach by discounting forecasted cash flows directly related to the products expected to result from the associated project.

*BTI*

On April 1, 2016, the Company acquired the remaining ownership interest in BTI, increasing its ownership from 12% to 100% , for \$25.8 million of cash. BTI was a privately-held provider of cloud and metro networking systems and software to content, cloud, and service providers. The Company acquired BTI on the expectation that this would help to accelerate the Company's ability to deliver open and automated packet optical transport solutions.

Prior to the acquisition, the Company had a pre-existing investment in BTI's equity and remeasured the investment to its fair value of \$17.1 million , which was based upon the perspective of a market participant when estimating the fair value. The Company also held \$0.9 million of convertible debt measured at fair value and settled upon acquisition. The Company also repaid upon acquisition \$18.6 million of certain outstanding BTI liabilities assumed.

Additionally, under the terms of the acquisition agreement, the Company assumed share-based awards for continuing employees from the acquisition of BTI, which were granted in contemplation of future services. The fair value of these share-based awards was \$8.6 million , which will be expensed as share-based compensation over the remaining service period.

*Acquisition Costs*

The Company recognized \$4.4 million , \$2.1 million , and \$11.8 million of acquisition-related costs during the years ended December 31, 2018 , December 31, 2017 , and December 31, 2016 , respectively. These acquisition-related costs were expensed in the period incurred within general and administrative expense in the Company's Consolidated Statements of Operations.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 4. Cash Equivalents and Investments**
**Investments in Available-for-Sale Debt Securities**

The following table summarizes the Company's unrealized gains and losses and fair value of investments designated as available-for-sale debt securities as of December 31, 2018 and December 31, 2017 (in millions):

	As of December 31, 2018				As of December 31, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Fixed income securities:								
Asset-backed securities	\$ 46.8	\$ —	\$ (0.3)	\$ 46.5	\$ 287.1	\$ —	\$ (0.6)	\$ 286.5
Certificates of deposit	152.9	—	—	152.9	83.8	—	—	83.8
Commercial paper	393.6	—	—	393.6	217.1	—	—	217.1
Corporate debt securities	416.1	—	(3.1)	413.0	929.6	0.4	(3.0)	927.0
Foreign government debt securities	20.0	—	(0.1)	19.9	62.9	—	(0.2)	62.7
Time deposits	278.6	—	—	278.6	239.2	—	—	239.2
U.S. government agency securities	87.2	—	(0.2)	87.0	143.9	—	(0.7)	143.2
U.S. government securities	811.8	—	(0.5)	811.3	406.8	0.1	(0.9)	406.0
Total fixed income securities	2,207.0	—	(4.2)	2,202.8	2,370.4	0.5	(5.4)	2,365.5
Privately-held debt and redeemable preferred stock securities								
	16.6	37.4	—	54.0	15.9	37.4	—	53.3
Total available-for-sale debt securities	\$ 2,223.6	\$ 37.4	\$ (4.2)	\$ 2,256.8	\$ 2,386.3	\$ 37.9	\$ (5.4)	\$ 2,418.8
Reported as:								
Cash equivalents	\$ 936.5	\$ —	\$ —	\$ 936.5	\$ 351.0	\$ —	\$ —	\$ 351.0
Short-term investments	1,069.2	—	(1.9)	1,067.3	1,027.2	0.1	(1.2)	1,026.1
Long-term investments	201.3	—	(2.3)	199.0	992.2	0.4	(4.2)	988.4
Other long-term assets	16.6	37.4	—	54.0	15.9	37.4	—	53.3
Total	\$ 2,223.6	\$ 37.4	\$ (4.2)	\$ 2,256.8	\$ 2,386.3	\$ 37.9	\$ (5.4)	\$ 2,418.8

The following table presents the contractual maturities of the Company's total fixed income securities as of December 31, 2018 (in millions):

	Amortized Cost	Estimated Fair Value
Due in less than one year	\$ 2,005.7	\$ 2,003.8
Due between one and five years	201.3	199.0
Total	\$ 2,207.0	\$ 2,202.8

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The following tables present the Company's total fixed income securities that were in an unrealized loss position as of December 31, 2018 and December 31, 2017 (in millions):

	As of December 31, 2018					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Fixed income securities:						
Asset-backed securities	\$ 3.1	\$ —	\$ 43	\$ (0.3)	\$ 46.1	\$ (0.3)
Corporate debt securities	72.6	(0.1)	330.7	(3.0)	403.3	(3.1)
Foreign government debt securities	1.5	—	18.4	(0.1)	19.9	(0.1)
U.S. government agency securities	2.0	—	45.2	(0.2)	47.2	(0.2)
U.S. government securities	344.0	—	63.5	(0.5)	407.5	(0.5)
Total fixed income securities	<u>\$ 423.2</u>	<u>\$ (0.1)</u>	<u>\$ 500.8</u>	<u>\$ (4.1)</u>	<u>\$ 924.0</u>	<u>\$ (4.2)</u>

	As of December 31, 2017					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Fixed income securities:						
Asset-backed securities	\$ 215.2	\$ (0.4)	\$ 38.4	\$ (0.2)	\$ 253.6	\$ (0.6)
Corporate debt securities	646.7	(2.1)	108.6	(0.9)	755.3	(3.0)
Foreign government debt securities	47.3	(0.2)	6.6	—	53.9	(0.2)
U.S. government agency securities	68.3	(0.2)	67.9	(0.5)	136.2	(0.7)
U.S. government securities	260.8	(0.7)	51.8	(0.2)	312.6	(0.9)
Total fixed income securities	<u>\$ 1,238.3</u>	<u>\$ (3.6)</u>	<u>\$ 273.3</u>	<u>\$ (1.8)</u>	<u>\$ 1,511.6</u>	<u>\$ (5.4)</u>

As of December 31, 2018, the Company had 490 investments in unrealized loss positions. The gross unrealized losses related to these investments were primarily due to changes in market interest rates. The Company does not intend to sell these investments and does not believe that it is more likely than not it will be required to sell any of these investments before recovery of the entire amortized cost basis, therefore the Company has determined that no other-than-temporary impairments associated with credit losses were required to be recognized during the years ended December 31, 2018, 2017, and 2016.

During the years ended December 31, 2018, 2017, and 2016, there were no material gross realized gains or losses from available-for-sale debt securities.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Investments in Equity Securities**

The following table presents the Company's investments in equity securities as of December 31, 2018 and 2017 (in millions):

	As of December 31,	
	2018	2017
Equity investments with readily determinable fair value		
Money market funds <sup>(1)</sup>	\$ 996.9	\$ 969.8
Mutual funds <sup>(2)</sup>	24.3	27.6
Publicly-traded equity securities	2.8	—
Equity investments without readily determinable fair value <sup>(3)</sup>	36.4	29.7
Total equity securities	<u>\$ 1,060.4</u>	<u>\$ 1,027.1</u>
Reported as:		
Cash equivalents	\$ 985.3	\$ 928.0
Short-term investments	2.8	—
Prepaid expenses and other current assets	10.9	36.3
Other long-term assets	61.4	62.8
Total	<u>\$ 1,060.4</u>	<u>\$ 1,027.1</u>

<sup>(1)</sup> Prior to January 1, 2018, money market funds were classified as available-for-sale securities and accounted for at fair value with unrealized gains and losses recognized in accumulated other comprehensive income (loss). Realized gains or losses from sales or impairments were recognized in the Consolidated Statements of Operations.

<sup>(2)</sup> Prior to January 1, 2018, mutual funds related to the Company's NQDC plan were classified as trading securities. Unrealized gains or losses were recognized in the Consolidated Statements of Operations.

<sup>(3)</sup> Prior to January 1, 2018, certain investments in privately-held companies were accounted for at cost less impairment. Realized gains or losses from sales or impairments were recognized in the Consolidated Statements of Operations.

During the year ended December 31, 2018, there were \$3.2 million in unrealized losses recognized for equity investments. During the years ended 2017, and 2016, there were no material unrealized gains or losses recognized for equity investments.

**Restricted Cash and Investments**

The Company has restricted cash and investments for: (i) amounts held in escrow accounts, as required in connection with certain acquisitions completed primarily between 2015 and 2018; (ii) amounts held under the Company's short-term disability plan in California; and (iii) amounts under the NQDC plan for senior-level employees. Restricted investments are designated as equity investments. As of December 31, 2018, the carrying value of restricted cash and investments was \$52.7 million, of which \$27.6 million was included in prepaid expenses and other current assets and \$25.1 million was included in other long-term assets on the Consolidated Balance Sheets.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash included in the Consolidated Balance Sheets as of December 31, 2018 and December 31, 2017 (in millions):

	As of December 31,	
	2018	2017
Cash and cash equivalents	\$ 2,489.0	\$ 2,006.5
Restricted cash included in Prepaid expenses and other current assets	16.8	49.6
Restricted cash included in Other long-term assets	—	3.0
Total cash, cash equivalents, and restricted cash	<u>\$ 2,505.8</u>	<u>\$ 2,059.1</u>

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 5. Fair Value Measurements**
**Assets and Liabilities Measured at Fair Value on a Recurring Basis**

The following table provides a summary of assets and liabilities measured at fair value on a recurring basis and as reported in the Consolidated Balance Sheets (in millions):

	Fair Value Measurements at December 31, 2018				Fair Value Measurements at December 31, 2017			
	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Remaining Inputs (Level 2)	Significant Other Unobservable Remaining Inputs (Level 3)	Total	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Remaining Inputs (Level 2)	Significant Other Unobservable Remaining Inputs (Level 3)	Total
<b>Assets:</b>								
Available-for-sale debt securities:								
Asset-backed securities	\$ —	\$ 46.5	\$ —	\$ 46.5	\$ —	\$ 286.5	\$ —	\$ 286.5
Certificates of deposit	—	152.9	—	152.9	—	83.8	—	83.8
Commercial paper	—	393.6	—	393.6	—	217.1	—	217.1
Corporate debt securities	—	413.0	—	413.0	—	927.0	—	927.0
Foreign government debt securities	—	19.9	—	19.9	—	62.7	—	62.7
Time deposits	—	278.6	—	278.6	—	239.2	—	239.2
U.S. government agency securities	—	87.0	—	87.0	—	143.2	—	143.2
U.S. government securities	352.8	458.5	—	811.3	322.4	83.6	—	406.0
Privately-held debt and redeemable preferred stock securities	—	—	54.0	54.0	—	—	53.3	53.3
Total available-for-sale debt securities	352.8	1,850.0	54.0	2,256.8	322.4	2,043.1	53.3	2,418.8
Equity securities:								
Money market funds <sup>(1)</sup>	996.9	—	—	996.9	969.8	—	—	969.8
Mutual funds <sup>(2)</sup>	24.3	—	—	24.3	27.6	—	—	27.6
Publicly-traded equity securities	2.8	—	—	2.8	—	—	—	—
Total equity securities	1,024.0	—	—	1,024.0	997.4	—	—	997.4
Derivative assets:								
Foreign exchange contracts	—	5.3	—	5.3	—	9.2	—	9.2
Total assets measured at fair value	\$ 1,376.8	\$ 1,855.3	\$ 54.0	\$ 3,286.1	\$ 1,319.8	\$ 2,052.3	\$ 53.3	\$ 3,425.4
<b>Liabilities:</b>								
Derivative liabilities:								
Foreign exchange contracts	\$ —	\$ (7.1)	\$ —	\$ (7.1)	\$ —	\$ (1.8)	\$ —	\$ (1.8)
Total liabilities measured at fair value	\$ —	\$ (7.1)	\$ —	\$ (7.1)	\$ —	\$ (1.8)	\$ —	\$ (1.8)
<b>Total assets, reported as:</b>								
Cash equivalents	\$ 1,025.2	\$ 896.6	\$ —	\$ 1,921.8	\$ 928.1	\$ 350.9	\$ —	\$ 1,279.0
Short-term investments	297.5	772.6	—	1,070.1	247.5	778.6	—	1,026.1
Long-term investments	18.2	180.8	—	199.0	74.8	913.6	—	988.4
Prepaid expenses and other current assets	10.8	5.3	—	16.1	36.3	9.2	—	45.5
Other long-term assets	25.1	—	54.0	79.1	33.1	—	53.3	86.4
Total assets measured at fair value	\$ 1,376.8	\$ 1,855.3	\$ 54.0	\$ 3,286.1	\$ 1,319.8	\$ 2,052.3	\$ 53.3	\$ 3,425.4
<b>Total liabilities, reported as:</b>								
Other accrued liabilities	\$ —	\$ (7.1)	\$ —	\$ (7.1)	\$ —	\$ (1.8)	\$ —	\$ (1.8)
Total liabilities measured at fair value	\$ —	\$ (7.1)	\$ —	\$ (7.1)	\$ —	\$ (1.8)	\$ —	\$ (1.8)

(1) Balance includes \$11.6 million and \$16.8 million in restricted investments measured at fair value, related to the Company's acquisition-related escrows for the years ended December 31, 2018 and 2017, respectively. The December 31, 2017 balance also includes \$25.0 million related to the Company's Directors and Officers indemnification trust, which was subsequently terminated.

(2) Balance relates to restricted investments measured at fair value related to the Company's NQDC plan.



**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The Company's Level 2 available-for-sale debt securities are priced using quoted market prices for similar instruments or non-binding market prices that are corroborated by observable market data. The Company uses inputs such as actual trade data, benchmark yields, broker/dealer quotes, or alternative pricing sources with reasonable levels of price transparency which are obtained from quoted market prices, independent pricing vendors, or other sources, to determine the ultimate fair value of these assets. The Company's derivative instruments are classified as Level 2, as they are not actively traded and are valued using pricing models that use observable market inputs. The Company's policy is to recognize asset or liability transfers among Level 1, Level 2, and Level 3 at the beginning of the quarter in which a change in circumstances resulted in a transfer. During the years ended December 31, 2018 and 2017, the Company had no transfers between levels of the fair value hierarchy of its assets or liabilities measured at fair value.

All of the Company's privately-held debt and redeemable preferred stock securities are classified as Level 3 assets due to the lack of observable inputs to determine fair value. The Company estimates the fair value of its privately-held debt and redeemable preferred stock securities on a recurring basis using an analysis of the financial condition and near-term prospects of the investee, including recent financing activities and the investee's capital structure. During the year ended December 31, 2018, there were no significant activities related to privately-held debt and redeemable preferred stock, other than the notes settled upon acquisition of HTBase. See Note 3, *Business Combinations*, for further information.

***Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis***

Certain of the Company's assets, including intangible assets and goodwill, are measured at fair value on a nonrecurring basis, when they are deemed to be other than temporarily impaired. There were no impairment charges recognized during the years ended December 31, 2018, 2017, and 2016.

Equity investments without readily determinable fair value are measured at fair value, when they are deemed to be impaired or when there is an adjustment from observable price changes. For the year ended December 31, 2018, there were no material impairment charges or adjustments resulting from observable price changes for equity investments without readily determinable fair value.

As of December 31, 2018 and 2017, the Company had no liabilities measured at fair value on a nonrecurring basis.

***Assets and Liabilities Not Measured at Fair Value***

The carrying amounts of the Company's accounts receivable, accounts payable, and other accrued liabilities approximate fair value due to their short maturities. As of December 31, 2018 and December 31, 2017, the estimated fair value of the Company's total outstanding debt in the Consolidated Balance Sheets was \$2,158.7 million and \$2,252.9 million, respectively, based on observable market inputs (Level 2). The carrying value of the promissory note issued to the Company in connection with the previously completed sale of Junos Pulse ("the Pulse Note"), along with the accumulated interest paid in kind, of \$69.0 million and \$61.2 million approximates its fair value as of December 31, 2018 and December 31, 2017, respectively. Notes receivable are generally classified as Level 3 asset due to the lack of observable inputs to determine fair value. The carrying value of a contract manufacturer deposit of \$23.9 million and long-term trade accounts receivable of \$15.0 million, reported within other long-term assets in the Consolidated Balance Sheets approximates its fair value as of December 31, 2018. See Note 8, *Other Financial Information*, for further information on the Pulse Note and contract manufacturer deposit.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 6. Derivative Instruments**

The notional amount of the Company's foreign currency derivatives is summarized as follows (in millions):

	As of December 31,	
	2018	2017
Cash flow hedges	\$ 497.7	\$ 521.1
Non-designated derivatives	158.7	108.3
Total	\$ 656.4	\$ 629.4

**Cash Flow Hedges**

The Company uses foreign currency forward contracts to hedge the Company's planned cost of revenues and operating expenses denominated in foreign currencies. These derivatives are designated as cash flow hedges. Cash flow hedge derivatives typically have maturities of seventeen months or less. As of December 31, 2018, an estimated \$1.6 million of unrealized net loss within accumulated other comprehensive loss is expected to be reclassified into earnings within the next twelve months.

The Company recognized an unrealized loss of \$8.7 million, an unrealized gain of \$20.2 million, and an unrealized loss of \$1.3 million in accumulated other comprehensive loss for the effective portion of its derivative instruments during the years ended December 31, 2018, 2017, and 2016, respectively. The Company reclassified gains of \$0.9 million, \$7.6 million, and \$1.8 million out of accumulated other comprehensive loss to cost of revenues and operating expenses in the Consolidated Statement of Operations during the years ended December 31, 2018, 2017, and 2016, respectively.

The ineffective portion of the Company's derivative instruments recognized in its Consolidated Statements of Operations was not material during the years ended December 31, 2018, 2017, and 2016, respectively.

See Note 5, *Fair Value Measurements*, for the fair values of the Company's derivative instruments in the Consolidated Balance Sheets.

**Non-Designated Derivatives**

The Company also uses foreign currency forward contracts to mitigate variability in gains and losses generated from the remeasurement of certain monetary assets and liabilities denominated in foreign currencies. These foreign exchange forward contracts typically have maturities of approximately one to three months. The outstanding non-designated derivative instruments are carried at fair value. Changes in the fair value of these derivatives recorded in other expense, net within the Consolidated Statements of Operations were \$7.6 million, \$1.8 million and \$0.5 million during the years ended December 31, 2018, 2017, and 2016, respectively.

See Note 2, *Significant Accounting Policies*, for the Company's policy regarding the offsetting of derivative assets and derivative liabilities.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 7. Goodwill and Purchased Intangible Assets**
**Goodwill**

The Company's goodwill activity was as follows (in millions):

	<b>Total</b>
December 31, 2016	\$ 3,081.7
Additions due to business combination	16.7
Other (*)	(2.2)
December 31, 2017	3,096.2
Additions due to business combination	14.4
Other (*)	(1.8)
December 31, 2018	\$ 3,108.8

(\*) Other primarily consists of certain purchase accounting adjustments related to the acquisitions of BTI and Cyphort.

In the fourth quarter of 2018, the Company performed its annual goodwill impairment test for the Company's three reporting units: Routing, Switching, and Security. There was no goodwill impairment during the years ended December 31, 2018, 2017 and 2016.

**Purchased Intangible Assets**

The Company's purchased intangible assets, net, were as follows (in millions):

	As of December 31, 2018				As of December 31, 2017			
	Gross	Accumulated Amortization	Accumulated Impairments and Other Charges	Net	Gross	Accumulated Amortization	Accumulated Impairments and Other Charges	Net
Finite-lived intangible assets:								
Technologies and patents	\$ 648.1	\$ (534.0)	\$ (49.9)	\$ 64.2	\$ 640.3	\$ (518.1)	\$ (49.9)	\$ 72.3
Customer contracts, support agreements, and related relationships	83.6	(75.5)	(2.8)	5.3	83.6	(74.1)	(2.8)	6.7
Other	2.0	(2.0)	—	—	2.0	(1.9)	—	0.1
Total	733.7	(611.5)	(52.7)	69.5	725.9	(594.1)	(52.7)	79.1
Indefinite-lived intangible assets:								
IPR&D	49.0	—	—	49.0	49.0	—	—	49.0
Total purchased intangible assets	\$ 782.7	\$ (611.5)	\$ (52.7)	\$ 118.5	\$ 774.9	\$ (594.1)	\$ (52.7)	\$ 128.1

Amortization expense was \$17.4 million, \$17.5 million, and \$16.3 million for the years ended December 31, 2018, 2017, and 2016, respectively. There were no impairment charges related to purchased intangible assets during the years ended December 31, 2018, 2017, and 2016.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

As of December 31, 2018, the estimated future amortization expense of purchased intangible assets with finite lives is as follows (in millions):

<u>Years Ending December 31,</u>	<u>Amount</u>
2019	\$ 25.1
2020	17.2
2021	12.9
2022	7.7
2023	5.3
Thereafter	1.3
Total	\$ 69.5

**Note 8. Other Financial Information**

***Inventory***

The majority of the Company's inventory is production components to be used in the manufacturing process, and finished goods inventory in transit. In addition, the Company purchases and holds inventory to provide adequate component supplies over the life of the underlying products. Total inventory consisted of the following (in millions):

	<u>As of December 31,</u>	
	<u>2018</u>	<u>2017</u>
Production and service materials	\$ 60.6	\$ 71.2
Finished goods	21.4	26.6
Inventory	\$ 82.0	\$ 97.8
Reported as:		
Prepaid expenses and other current assets	\$ 80.6	\$ 93.8
Other long-term assets	1.4	4.0
Total	\$ 82.0	\$ 97.8

***Property and Equipment, Net***

Property and equipment, net, consisted of the following (in millions):

	<u>As of December 31,</u>	
	<u>2018</u>	<u>2017</u>
Computers and equipment	\$ 1,100.0	\$ 1,151.7
Software	223.3	217.8
Leasehold improvements	235.2	258.6
Furniture and fixtures	48.6	47.9
Building and building improvements	254.3	252.8
Land and land improvements	243.2	241.0
Construction-in-process	19.5	53.5
Property and equipment, gross	2,124.1	2,223.3
Accumulated depreciation	(1,172.4)	(1,202.2)
Property and equipment, net	\$ 951.7	\$ 1,021.1

Depreciation expense was \$193.2 million, \$202.8 million, and \$184.5 million in 2018, 2017, and 2016, respectively.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Notes Receivable and Deposit**

Total outstanding notes receivable and deposit, net of issuance costs, reported within other long-term assets in the Consolidated Balance Sheets were as follows (in millions):

	As of December 31,	
	2018	2017
Pulse Note (including accumulated interest paid in kind)	\$ 69.0	\$ 61.2
Contract manufacturer deposit (non-interest bearing)	23.9	—
<b>Total</b>	<b>\$ 92.9</b>	<b>\$ 61.2</b>

In connection with the sale of its Junos Pulse product portfolio in 2014, the Company was issued a non-contingent interest-bearing promissory note of \$125.0 million. In 2017, the Company received payment of \$75.0 million and the outstanding interest due. The maturity date of the Pulse Note was extended to September 30, 2022 under the terms of an amended agreement. The amended agreement also provided that interest due on the note be paid in kind by increasing the principal amount and interest rate on the Pulse Note. The outstanding balance of the Pulse Note was classified as a long-term asset based on expected collection beyond twelve months from the Consolidated Balance Sheet date.

In 2018, the Company paid a deposit of \$25.0 million to a contract manufacturer in exchange for improved pricing and savings on inventory carrying charges. The deposit was recorded at the face value of \$25.0 million, less an unamortized discount of \$1.1 million, calculated based on an imputed interest rate of 4.8%, that will be amortized over the term of the deposit to interest income along with a corresponding amount to cost of revenues. The deposit is due on demand in the first quarter of 2020 and was classified as other long-term assets on the Consolidated Balance Sheets. In January 2019, the Company paid an additional non-interest bearing deposit of \$22.0 million to the contract manufacturer per the terms of the agreement.

Interest income on the notes receivable is accrued and credited to interest income as it is earned, unless it is not probable the Company will collect the amounts due or if the present value of expected cash flows is less than the recorded investment. Interest income recognized was \$8.4 million, \$8.3 million, and \$10.6 million, during the years ended December 31, 2018, 2017, and 2016, respectively.

The Company considers notes receivable to be impaired when, based on current information and events, it is probable that the Company will not be able to collect the scheduled payments of principal or interest when due. No impairment charge was required as of December 31, 2018, 2017, and 2016.

**Warranties**

The Company accrues for warranty costs based on associated material, labor for customer support, and overhead at the time revenue is recognized. This accrual is reported within other accrued liabilities in the Consolidated Balance Sheets. Changes in the Company's warranty reserve were as follows (in millions):

	As of December 31,	
	2018	2017
Beginning balance	\$ 27.4	\$ 41.3
Provisions made during the period, net	30.7	36.7
Actual costs incurred during the period	(30.1)	(50.6)
Ending balance	<b>\$ 28.0</b>	<b>\$ 27.4</b>

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Deferred Revenue**

Details of the Company's deferred revenue, as reported in the Consolidated Balance Sheets, were as follows (in millions):

	As of December 31,	
	2018	2017
Deferred product revenue:		
Undelivered product commitments and other product deferrals	\$ 163.3	\$ 312.6
Distributor inventory and other sell-through items	—	68.1
Deferred gross product revenue	163.3	380.7
Deferred cost of product revenue	(18.9)	(46.5)
Deferred product revenue, net	144.4	334.2
Deferred service revenue	1,069.2	1,205.1
Total	\$ 1,213.6	\$ 1,539.3
Reported as:		
Current	\$ 829.3	\$ 1,030.3
Long-term	384.3	509.0
Total	\$ 1,213.6	\$ 1,539.3

Deferred product revenue represents unrecognized revenue related to undelivered product commitments and other shipments that have not met revenue recognition criteria. Deferred service revenue represents billed amounts for service contracts, which include technical support, hardware and software maintenance, professional services, and training, for which services have not been rendered. At December 31, 2017, deferred product revenue also included unrecognized revenue related to shipments to distributors that had not sold through to end-users.

**Revenue**

See Note 13, *Segments*, for disaggregated revenue by product and service, customer vertical, and geographic region.

Product revenue of \$104.2 million included in deferred revenue at January 1, 2018 was recognized during the year ended December 31, 2018. Service revenue of \$690.3 million included in deferred revenue at January 1, 2018 was recognized during the year ended December 31, 2018.

The following table summarizes the transaction price for contracts that have not yet been recognized as revenue as of December 31, 2018 and when the Company expects to recognize the amounts as revenue (in millions):

	Revenue Recognition Expected by Period			
	Total	Less than 1 year	1-3 years	More than 3 years
Product	\$ 163.3	\$ 131.2	\$ 28.9	\$ 3.2
Service	1,069.2	717.1	292.8	59.3
Total	\$ 1,232.5	\$ 848.3	\$ 321.7	\$ 62.5

**Deferred Commissions**

Deferred commissions were \$33.7 million as of December 31, 2018. During the year ended December 31, 2018, amortization expense for the deferred commissions was \$144.2 million and there were no impairment charges recognized.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Other Expense, Net**

Other expense, net consisted of the following (in millions):

	Years Ended December 31,		
	2018	2017	2016
Interest income	\$ 72.7	\$ 53.0	\$ 35.4
Interest expense	(103.2)	(101.2)	(97.7)
(Loss) gain on investments, net	(7.4)	14.6	(1.8)
Other	(1.6)	(2.7)	1.8
Other expense, net	<u>\$ (39.5)</u>	<u>\$ (36.3)</u>	<u>\$ (62.3)</u>

Interest income primarily includes interest earned on the Company's cash, cash equivalents, investments, and promissory note issued to the Company in connection with the sale of Junos Pulse. Interest expense primarily includes interest, net of capitalized interest expense, from long-term debt and customer financing arrangements. (Loss) gain on investments, net, primarily includes gains from the sale of investments in public and privately-held companies, and any observable changes in fair value and impairment charges recorded on these investments. Other typically consists of foreign exchange gains and losses and other non-operational income and expense items.

**Note 9. Restructuring Charges**

The following table presents restructuring charges included in the Consolidated Statements of Operations (in millions):

	Years Ended December 31,		
	2018	2017	2016
Severance	\$ 8.3	\$ 57.7	\$ 2.8
Facilities	—	—	0.5
Contract terminations	(1.0)	7.9	—
Total	<u>\$ 7.3</u>	<u>\$ 65.6</u>	<u>\$ 3.3</u>
Reported as:			
Restructuring charges	\$ 7.3	\$ 65.6	\$ 3.3
Total	<u>\$ 7.3</u>	<u>\$ 65.6</u>	<u>\$ 3.3</u>

*2018 Restructuring Plan*

During the third quarter of 2018, the Company initiated a restructuring plan (the "2018 Restructuring Plan") to realign its workforce as a result of organizational and leadership changes. In connection with the 2018 Restructuring Plan, the Company recorded \$5.0 million of severance costs to restructuring charges in the Consolidated Statements of Operations during the year ended December 31, 2018. The 2018 Restructuring Plan is substantially complete.

*Prior Restructuring Activities*

In 2017, the Company initiated a restructuring plan (the "2017 Restructuring Plan") to realign its workforce and increase operational efficiencies. The 2017 Restructuring Plan consisted of severance and contract termination costs that were recorded to restructuring charges in the Consolidated Statement of Operations.

During the year ended December 31, 2018, in connection with the 2017 Restructuring Plan, the Company recorded \$3.3 million of severance costs to restructuring charges and insignificant favorable adjustments for changes in previous estimates in the Consolidated Statements of Operations. The 2017 Restructuring Plan is substantially complete.

In 2016, the Company recorded restructuring charges related to severance costs for certain former BTI employees as well as restructuring costs related to facilities. These activities were substantially completed as of December 31, 2017.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

*Restructuring Liabilities*

Restructuring liabilities are reported within other accrued liabilities in the Consolidated Balance Sheets. The following table provides a summary of changes in the restructuring liabilities associated with the 2018 Restructuring Plan and prior year plans (in millions):

	December 31, 2017	Charges/ (Benefits)	Cash Payments	Other	December 31, 2018
Severance	\$ 17.7	\$ 8.3	\$ (25.0)	\$ 0.1	\$ 1.1
Contract terminations and other	2.3	(1.0)	(1.3)	—	—
<b>Total</b>	<b>\$ 20.0</b>	<b>\$ 7.3</b>	<b>\$ (26.3)</b>	<b>\$ 0.1</b>	<b>\$ 1.1</b>

The Company expects to substantially pay the remaining restructuring liabilities in the first quarter of 2019.

See Note 18, *Subsequent Events*, for a discussion of the Company's restructuring plan initiated subsequent to December 31, 2018.

**Note 10. Debt and Financing**

***Debt***

The following table summarizes the Company's total debt (in millions, except percentages):

	As of December 31, 2018			Effective Interest Rates
	Issuance date	Maturity Date	Amount	
Senior Notes ("Notes"):				
3.125% fixed-rate notes ("2019 Notes")	February 2016	February 2019	\$ 350.0	3.36%
3.300% fixed-rate notes ("2020 Notes")	March 2015	June 2020	300.0	3.47%
4.600% fixed-rate notes	March 2011	March 2021	300.0	4.69%
4.500% fixed-rate notes <sup>(*)</sup> ("2024 Notes")	March 2014	March 2024	350.0	4.63%
4.500% fixed-rate notes <sup>(*)</sup> ("2024 Notes")	February 2016	March 2024	150.0	4.87%
4.350% fixed-rate notes ("2025 Notes")	March 2015	June 2025	300.0	4.47%
5.950% fixed-rate notes	March 2011	March 2041	400.0	6.03%
Total Notes			2,150.0	
Unaccreted discount and debt issuance costs			(11.0)	
<b>Total</b>			<b>\$ 2,139.0</b>	

<sup>(\*)</sup> 2024 Notes issued in March 2014 and February 2016 form a single series and are fully fungible.

The Notes above are the Company's senior unsecured and unsubordinated obligations, ranking equally in right of payment to all of the Company's existing and future senior unsecured and unsubordinated indebtedness, and senior in right of payment to any of the Company's future indebtedness that is expressly subordinated to the Notes.

As of December 31, 2018, the Company's aggregate debt maturities based on outstanding principal were as follows (in millions):

Years Ending December 31,	Amount
2019	\$ 350.0
2020	300.0
2021	300.0
2022	—
2023	—
Thereafter	1,200.0
<b>Total</b>	<b>\$ 2,150.0</b>



**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The Company may redeem the 2020 Notes and 2025 Notes, either in whole or in part, at any time one month prior to the maturity date of the 2020 Notes, and three months prior to the maturity date of the 2025 Notes, at a redemption price equal to the greater of (i) 100% of the aggregate principal amount of the 2020 Notes and 2025 Notes to be redeemed or (ii) the sum of the present values of the remaining scheduled payments discounted at the Treasury rate plus 30 basis points for the 2020 Notes, or the Treasury rate plus 37.5 basis points for the 2025 Notes, plus, in the case of each of the clauses (i) and (ii) above, accrued and unpaid interest, if any. At any time on or after May 15, 2020, in the case of the 2020 Notes, and at any time on or after March 15, 2025, in the case of the 2025 Notes, the Company may redeem Notes of such series, in whole or in part, at a redemption price equal to 100% of the principal amount of the 2020 Notes and the 2025 Notes to be redeemed, plus accrued and unpaid interest, if any. The Company may redeem the other Notes, either in whole or in part, at any time at a redemption price equal to the greater of (i) 100% of the aggregate principal amount of the Notes to be redeemed or (ii) the sum of the present values of the remaining scheduled payments discounted to the redemption date, plus, in either case, accrued and unpaid interest, if any.

In the event of a change of control repurchase event, the holders of the Notes may require the Company to repurchase for cash all or part of the Notes at a purchase price equal to 101% of the aggregate principal amount, plus accrued and unpaid interest, if any.

Interest on the Notes is payable in cash semiannually. The effective interest rates for the Notes include the interest on the Notes, accretion of the discount, and amortization of issuance costs. The indentures that govern the Notes also contain various covenants, including limitations on the Company's ability to incur liens or enter into sale-leaseback transactions over certain dollar thresholds.

As of December 31, 2018, the Company was in compliance with all covenants in the indentures governing the Notes.

***Revolving Credit Facility***

In June 2014, the Company entered into a Credit Agreement ("Credit Agreement") with certain institutional lenders and Citibank, N.A., as administrative agent, that provides for a \$500.0 million unsecured revolving credit facility, with an option of the Company to increase the amount of the credit facility by up to an additional \$200.0 million, subject to the lenders' approval. Proceeds of loans made under the Credit Agreement may be used by the Company for working capital and general corporate purposes. Revolving loans may be borrowed, repaid and reborrowed until June 27, 2019, at which time all amounts borrowed must be repaid. Borrowing may be denominated, at the Company's option in U.S. dollars, Pounds Sterling or Euro.

Borrowings under the Credit Agreement will bear interest, at either i) a floating rate per annum equal to the base rate plus a margin of between 0.00% and 0.50%, depending on the Company's public debt rating or ii) a per annum rate equal to the reserve adjusted Eurocurrency rate, plus a margin of between 0.90% and 1.50%, depending on the Company's public debt rating. Base rate is defined as the greatest of (A) Citibank's base rate, (B) the Federal Funds rate plus 0.50% or (C) the ICE Benchmark Administration Settlement Rate applicable to dollars for a period of one month plus 1.00%. The Eurocurrency rate is determined for U.S. dollars and Pounds Sterling as the rate at which deposits in such currency are offered in the London interbank market for the applicable interest period and for Euro as the rate specified for deposits in Euro with a maturity comparable to the applicable interest period.

As of December 31, 2018, the Company has not borrowed any funds under the Credit Agreement and was in compliance with all covenants in the Credit Agreement.

***Financing Arrangements***

The Company provides certain customers with access to extended financing arrangements that allow for longer payment terms than those typically provided by the Company by factoring accounts receivable to third-party financing providers ("financing providers"). The program does not and is not intended to affect the timing of the Company's revenue recognition. Under the financing arrangements, proceeds from the financing providers are due to the Company within 1 to 90 days from the sale of the receivable. In these transactions with the financing providers, the Company surrenders control over the transferred assets.

Pursuant to the financing arrangements for the sale of receivables, the Company sold receivables of \$122.8 million, \$169.4 million and \$95.6 million during the years ended December 31, 2018, 2017, and 2016, respectively. The Company received cash proceeds from financing providers of \$123.2 million, \$169.3 million, and \$83.2 million during the years ended December 31, 2018, 2017, and 2016, respectively. As of December 31, 2018 and December 31, 2017, the amounts owed by the financing providers were \$17.2 million and \$13.7 million, respectively, which were recorded in accounts receivable on the Company's Consolidated Balance Sheets.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The portion of the receivable financed that has not been recognized as revenue is accounted for as a financing arrangement and is included in other accrued liabilities in the Consolidated Balance Sheets. There was no outstanding balance as of December 31, 2018 . Cash received from the financing provider not recognized as revenue was \$16.9 million as of December 31, 2017 .

**Note 11. Equity**

The following table summarizes dividends paid, stock repurchases and retirements under the Company's stock repurchase programs, and stock repurchases for tax withholdings (in millions, except per share amounts):

Year	Dividends		Stock Repurchases				Total
	Per Share	Amount	Shares	Average price per share	Amount	Tax Withholding Amount	Amount
2018 <sup>(1)</sup>	\$ 0.72	\$ 249.3	29.3	\$ 25.62	\$ 750.0	\$ 6.6	\$ 1,005.9
2017 <sup>(2)</sup>	\$ 0.40	\$ 150.4	26.1	\$ 27.61	\$ 719.7	\$ 6.1	\$ 876.2
2016 <sup>(2)</sup>	\$ 0.40	\$ 152.5	13.5	\$ 23.25	\$ 312.9	\$ 11.7	\$ 477.1

<sup>(1)</sup> Shares repurchased under the 2018 Stock Repurchase Program. \$750.0 million represents the full amount of the ASR for which 23.3 million shares were received initially during the first quarter of 2018, and an additional 6.0 million shares were received at final settlement during the third quarter of 2018.

<sup>(2)</sup> Shares repurchased under the 2014 Stock Repurchase Program.

**Cash Dividends on Shares of Common Stock**

During 2018 , the Company declared four quarterly cash dividends of \$0.18 per share on its common stock on January 30, 2018, May 2, 2018, July 26, 2018 and October 24, 2018, which were paid on March 22, 2018, June 22, 2018, September 25, 2018 and December 26, 2018, respectively, to stockholders of record as of the close of business on March 1, 2018, June 1, 2018, September 4, 2018, and December 5, 2018, respectively. Any future dividends, and the establishment of record and payment dates, are subject to approval by the Board of Directors (the "Board") of Juniper Networks or an authorized committee thereof. See Note 18, *Subsequent Events*, for discussion of the Company's dividend declaration subsequent to December 31, 2018 .

**Stock Repurchase Activities**

In January 2018, the Board approved a \$2.0 billion share repurchase program ("2018 Stock Repurchase Program"), including \$750.0 million to be used pursuant to an accelerated share repurchase program. The 2018 Stock Repurchase Program replaces the previous authorization approved by the Board in 2014 ("2014 Stock Repurchase Program").

As part of the 2018 Stock Repurchase Program, in February 2018, the Company entered into an accelerated share repurchase program (the "ASR") with two financial institutions to repurchase \$750.0 million of the Company's common stock. During the first quarter of 2018, the Company made an up-front payment of \$750.0 million pursuant to the ASR and received an initial 23.3 million shares of the Company's common stock, based on the market value of the Company's common stock on the date of the transaction. During the third quarter of 2018, the ASR was completed and an additional 6.0 million shares were received from the financial institutions for a total repurchase of 29.3 million shares of the Company's common stock at a volume weighted average repurchase price, less an agreed upon discount, of \$25.62 per share. The shares received with respect to the ASR were retired and accounted for as a reduction to stockholders' equity in the Consolidated Balance Sheets.

As of December 31, 2018 , there were \$1.3 billion of authorized funds remaining under the 2018 Stock Repurchase Program.

Future share repurchases under the 2018 Stock Repurchase Program will be subject to a review of the circumstances at that time and will be made from time to time in private transactions or open market purchases as permitted by securities laws and other legal requirements. The Company's 2018 Stock Repurchase Program may be discontinued at any time.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

***Accumulated Other Comprehensive Loss, Net of Tax***

The components of accumulated other comprehensive loss, net of related taxes, for the years ended December 31, 2018 , 2017 , and 2016 were as follows (in millions):

	Unrealized Gains/Losses on Available-for- Sale Debt Securities <sup>(1)</sup>	Unrealized Gains/Losses on Cash Flow Hedges <sup>(2)</sup>	Foreign Currency Translation Adjustments	Total
Balance as of December 31, 2015	\$ 17.0	\$ (1.3)	\$ (34.9)	\$ (19.2)
Other comprehensive income (loss) before reclassifications	0.8	(2.1)	(14.5)	(15.8)
Amount reclassified from accumulated other comprehensive loss	(1.2)	(1.1)	—	(2.3)
Other comprehensive loss, net	(0.4)	(3.2)	(14.5)	(18.1)
Balance as of December 31, 2016	\$ 16.6	\$ (4.5)	\$ (49.4)	\$ (37.3)
Other comprehensive income before reclassifications	4.5	15.7	19.0	39.2
Amount reclassified from accumulated other comprehensive loss	(2.1)	(5.2)	—	(7.3)
Other comprehensive income, net	2.4	10.5	19.0	31.9
Balance as of December 31, 2017	\$ 19.0	\$ 6.0	\$ (30.4)	\$ (5.4)
Other comprehensive income (loss) before reclassifications	0.6	(6.4)	(12.4)	(18.2)
Amount reclassified from accumulated other comprehensive income (loss)	0.9	(1.2)	—	(0.3)
Other comprehensive income (loss), net	1.5	(7.6)	(12.4)	(18.5)
Reclassification of tax effects upon adoption of ASU 2018-02	5.0	0.7	—	5.7
Balance as of December 31, 2018	\$ 25.5	\$ (0.9)	\$ (42.8)	\$ (18.2)

<sup>(1)</sup> The reclassifications out of accumulated other comprehensive loss during the years ended December 31, 2018 , 2017 , and 2016 for realized gains on available-for-sale debt securities were not material, and were included in other expense, net, in the Consolidated Statements of Operations.

<sup>(2)</sup> The reclassifications out of accumulated other comprehensive loss during the years ended December 31, 2018 , 2017 , and 2016 for realized gains and losses on cash flow hedges were not material, and were included within cost of revenues, research and development, sales and marketing, and general and administrative in the Consolidated Statements of Operations.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 12. Employee Benefit Plans*****Equity Incentive Plans***

The Company's equity incentive plans include the 2015 Equity Incentive Plan (the "2015 Plan"), the 2006 Equity Incentive Plan (the "2006 Plan"), and the 2008 Employee Stock Purchase Plan (the "ESPP"). Under these plans, the Company has granted stock options, RSUs, and PSAs. In addition, in connection with certain past acquisitions, the Company has assumed or substituted stock options, RSUs, RSAs, and PSAs granted under the stock plans of the acquired companies. Such awards were converted into or replaced with the Company's stock options, RSUs, RSAs, and PSAs, respectively.

The 2015 Plan was adopted and approved by the Company's stockholders in May 2015 and had an initial authorized share reserve of 38.0 million shares of common stock, plus the addition of any shares subject to outstanding awards under the 2006 Plan and the Amended and Restated 1996 Stock Plan that were outstanding as of May 19, 2015, and that subsequently expire or otherwise terminate, up to a maximum of an additional 29.0 million shares. In May 2017, the Company's stockholders approved an additional 23.0 million shares of common stock for issuance under the 2015 Plan. As of December 31, 2018, an aggregate of 15.3 million shares were subject to outstanding equity awards under the 2015 Plan and the 2006 Plan. As of December 31, 2018, 21.9 million shares were available for future issuance under the 2015 Plan and no shares were available for future issuance under the 2006 Plan or the 1996 Plan.

The ESPP was adopted and approved by the Company's stockholders in May 2008. To date, the Company's stockholders have approved a share reserve of 35.0 million shares of the Company's common stock for issuance under the ESPP. The ESPP permits eligible employees to acquire shares of the Company's common stock at a 15% discount (as determined in the ESPP) through periodic payroll deductions of up to 10% of base compensation, subject to individual purchase limits of 6,000 shares in any twelve-month period or \$25,000 worth of stock, determined at the fair market value of the shares at the time the stock purchase option is granted, in one calendar year. On November 6, 2017, the Company's Compensation Committee amended and restated the ESPP to provide that for the offering period that began on February 1, 2018 would be for 24 months with four 6-month purchase periods. A new 24-month offering period will commence every six months thereafter. The purchase price for the Company's common stock under the ESPP is 85% of the lower of the fair market value of the shares at (1) the beginning of the applicable offering period or (2) the end of each 6-month purchase period during such offering period. The ESPP will continue in effect until February 25, 2028, unless terminated earlier under the provisions of the ESPP. As of December 31, 2018, approximately 26.3 million shares have been issued and 8.7 million shares remain available for future issuance under the ESPP.

During 2018, 2017, and 2016, the Company completed the acquisitions of HTBase, Cyphort, AppFormix, Aurion, and BTI. In connection with these acquisitions, the Company assumed or substituted an aggregate of 4.1 million shares of stock options, RSUs, RSAs, and PSAs. No additional awards can be granted under the stock plans of the acquired companies. As of December 31, 2018, approximately 2.2 million shares of common stock were outstanding under all awards assumed or substituted through the Company's acquisitions.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**RSU, RSA, and PSA Activities**

RSUs and RSAs generally vest over three years from the date of grant, and PSAs generally vest over a period of two to three years provided that certain annual performance targets and other vesting criteria are met. Until vested, RSUs and PSAs do not have the voting and dividend participation rights of common stock and the shares underlying the awards are not considered issued and outstanding.

The following table summarizes the Company's RSU, RSA, and PSA activity and related information as of and for the year ended December 31, 2018 (in millions, except per share amounts and years):

	Outstanding RSUs, RSAs, and PSAs <sup>(6)</sup>			
	Number of Shares	Weighted Average Grant-Date Fair Value per Share	Weighted Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value
Balance at December 31, 2017	19.5	\$ 25.39		
RSUs granted <sup>(1)(2)</sup>	7.4	25.40		
RSUs substituted in acquisitions <sup>(2)(5)</sup>	0.1	26.26		
RSAs substituted in acquisitions <sup>(2)(5)</sup>	0.1	27.66		
PSAs granted <sup>(2)(4)</sup>	0.9	24.62		
RSUs vested <sup>(3)</sup>	(6.5)	25.67		
RSAs vested <sup>(3)</sup>	(0.2)	25.12		
PSAs vested <sup>(3)</sup>	(1.1)	24.14		
RSUs canceled	(2.0)	25.92		
PSAs canceled	(0.8)	24.45		
Balance at December 31, 2018	<u>17.4</u>	<u>\$ 25.32</u>	1.0	\$ 467.6

**As of December 31, 2018**

Vested and expected-to-vest RSUs, RSAs, and PSAs	15.5	\$ 25.31	1.0	\$ 418.4
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<sup>(1)</sup> Includes service-based and market-based RSUs granted under the 2015 Plan according to their terms.

<sup>(2)</sup> The weighted-average grant-date fair value of RSUs, RSAs, and PSAs granted and assumed or substituted during 2018, 2017, and 2016 was \$25.33, \$27.53, and \$24.66, respectively.

<sup>(3)</sup> Total fair value of RSUs, RSAs, and PSAs vested during 2018, 2017, and 2016 was \$200.5 million, \$187.3 million, and \$185.7 million, respectively.

<sup>(4)</sup> The number of shares subject to PSAs granted represents the aggregate maximum number of shares that may be issued pursuant to the award over its full term. The aggregate number of shares subject to these PSAs that would be issued if performance goals determined by the Compensation Committee are achieved at target is 0.7 million shares. Depending on achievement of such performance goals, the range of shares that could be issued under these awards is 0 million to 1.0 million shares.

<sup>(5)</sup> RSUs and RSAs substituted in connection with the acquisition of HTBase.

<sup>(6)</sup> Excludes 1.9 million shares of PSAs that were modified in 2018, which relate primarily to PSAs assumed by the Company in connection with acquisitions consummated in 2016. These awards are contingent upon the achievement of certain performance milestones. The total incremental compensation cost resulting from the modifications totaled \$6.9 million to be recognized over the remaining terms of the modified awards.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Shares Available for Grant**

The following table presents the stock activity and the total number of shares available for grant under the 2015 Plan (in millions):

	<b>Number of Shares</b>
Balance as of December 31, 2017	33.5
Additional shares authorized	—
RSUs and PSAs granted <sup>(1)</sup>	(17.7)
RSUs and PSAs canceled <sup>(2)</sup>	5.4
Options canceled/expired <sup>(2)</sup>	0.7
Balance as of December 31, 2018	21.9

<sup>(1)</sup> RSUs and PSAs with a per share or unit purchase price lower than 100% of the fair market value of the Company's common stock on the day of the grant under the 2015 Plan are counted against shares authorized under the plan as two and one-tenth shares of common stock for each share subject to such award. The number of shares subject to PSAs granted represents the maximum number of shares that may be issued pursuant to the award over its full term.

<sup>(2)</sup> Canceled or expired options and canceled RSUs and PSAs under the 2006 Plan are no longer available for future grant under such plan; however, the number of shares available for grant under the 2015 Plan are increased by (i) the amount of such canceled or expired options and (ii) two and one-tenth the shares for each canceled RSUs or PSAs, as applicable, up to a maximum of 29.0 million additional shares of common stock, pursuant to the terms of the 2015 Plan.

**Employee Stock Purchase Plan**

The Company's ESPP is implemented in a series of offering periods, each six months in duration, or a shorter period as determined by the Board. Employees purchased 2.5 million shares of common stock through the ESPP during 2018, and 2.7 million shares in both 2017 and 2016 at an average exercise price of \$22.31, \$20.83, and \$19.66 per share, respectively.

**Valuation Assumptions**

The weighted-average assumptions used and the resulting estimates of fair value for ESPP and market-based RSUs were as follows:

	<b>Years Ended December 31,</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>
<b>ESPP:</b>			
Volatility	29%	25%	32%
Risk-free interest rate	1.9%	0.9%	0.4%
Expected life (years)	1.2	0.5	0.5
Dividend yield	2.7%	1.5%	1.8%
Weighted-average fair value per share	\$6.93	\$6.04	\$5.56
<b>Market-based RSUs:</b>			
Volatility	28%	30%	36%
Risk-free interest rate	2.4%	1.9%	1.2%
Dividend yield	2.6%	1.4%	1.7%
Weighted-average fair value per share	\$28.39	\$19.30	\$14.71

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Share-Based Compensation Expense**

Share-based compensation expense associated with stock options, RSUs, RSAs, PSAs, and ESPP was recorded in the following cost and expense categories in the Company's Consolidated Statements of Operations (in millions):

	Years Ended December 31,		
	2018	2017	2016
Cost of revenues - Product	\$ 6.3	\$ 4.6	\$ 6.4
Cost of revenues - Service	18.0	17.5	15.3
Research and development	120.6	86.6	126.5
Sales and marketing	51.1	55.6	55.2
General and administrative	21.1	23.2	23.4
Total	<u>\$ 217.1</u>	<u>\$ 187.5</u>	<u>\$ 226.8</u>

The following table summarizes share-based compensation expense by award type (in millions):

	Years Ended December 31,		
	2018	2017	2016
Stock options	\$ 0.4	\$ 0.5	\$ 4.4
RSUs, RSAs, and PSAs	198.2	171.3	206.9
ESPP	18.5	15.7	15.5
Total	<u>\$ 217.1</u>	<u>\$ 187.5</u>	<u>\$ 226.8</u>

For the years ended December 31, 2018, 2017 and 2016, the Company recognized tax benefits on total stock-based compensation expense, which are reflected in the income tax provision in the Consolidated Statements of Operations, of \$33.8 million, \$29.1 million, and \$53.3 million, respectively.

For the years ended December 31, 2018, 2017 and 2016, the realized tax benefit related to awards vested or exercised during the period was \$38.9 million, \$64.1 million and \$58.6 million, respectively. These amounts do not include the indirect effects of stock-based awards, which primarily relate to the research and development tax credit.

As of December 31, 2018, the total unrecognized compensation cost related to unvested share-based awards was \$280.4 million to be recognized over a weighted-average period of 1.4 years.

**401(k) Plan**

The Company maintains a savings and retirement plan qualified under Section 401(k) of the Internal Revenue Code of 1986, as amended (the "IRC"). Employees meeting the eligibility requirements, as defined under the IRC, may contribute up to the statutory limits each year. The Company currently matches 30% of all eligible employee contributions which vest immediately. The Company's matching contributions to the plan totaled \$20.2 million, \$21.1 million, and \$20.7 million during 2018, 2017, and 2016, respectively.

**Deferred Compensation Plan**

The Company's NQDC plan is an unfunded and unsecured deferred compensation arrangement. Under the NQDC plan, officers and other senior employees may elect to defer a portion of their compensation and contribute such amounts to one or more investment funds. As of December 31, 2018, the liability of the Company to the plan participants was \$24.3 million, of which \$3.6 million was included within other accrued liabilities and \$20.7 million was included in other long-term liabilities on the Consolidated Balance Sheets. The Company had investments of \$24.3 million correlating to the deferred compensation obligations, of which \$3.6 million was included within prepaid expenses and other current assets and \$20.7 million was included within other long-term assets on the Consolidated Balance Sheets. As of December 31, 2017, the liability of the Company was \$27.6 million, of which \$4.9 million was included within other accrued liabilities and \$22.7 million was included in other long-term liabilities on the Consolidated Balance Sheets. The Company had investments of \$27.6 million correlating to the deferred compensation obligations, of which \$4.9 million was included within prepaid expenses and other current assets and \$22.7 million was included within other long-term assets on the Consolidated Balance Sheets.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Non-US Pension Plans**

The Company maintains the India Gratuity Trust and Israel Retirement Trust (or "the Pension Plans") to cover statutory severance obligations in the event of termination of any of its India and Israel employees, respectively. The Pension Plans are primarily invested in mutual funds and measured at fair value using Level 1 hierarchy on a recurring basis. The Company reports the Pension Plans on a net basis on the Consolidated Balance Sheets. As of December 31, 2018 and December 31, 2017, the fair value of the Pension Plans was \$13.1 million and \$11.3 million, respectively. As of December 31, 2018 and December 31, 2017, the Company recorded a net plan liability of \$2.5 million and \$4.3 million, respectively, in accrued compensation on the Consolidated Balance Sheets.

**Note 13. Segments**

The Company operates in one reportable segment. The Company's chief executive officer, who is the chief operating decision maker, reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance, accompanied by disaggregated information about net revenues by product and service, customer vertical, and geographic region as presented below.

The following table presents net revenues by product and service (in millions):

	Years Ended December 31,		
	2018	2017	2016
Routing	\$ 1,839.7	\$ 2,189.5	\$ 2,352.9
Switching	934.4	963.4	858.0
Security	333.0	293.3	318.0
Total product	3,107.1	3,446.2	3,528.9
Total service	1,540.4	1,581.0	1,461.2
Total	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1

The following table presents net revenues by customer vertical (\*) (in millions):

	Years Ended December 31,		
	2018	2017	2016
Cloud	\$ 1,049.9	\$ 1,310.7	\$ 1,315.9
Service Provider	2,066.7	2,319.4	2,316.4
Enterprise	1,530.9	1,397.1	1,357.8
Total	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1

(\*) Certain prior-period amounts have been reclassified to conform to the current-period classifications.

The Company attributes revenues to geographic region based on the customer's shipping address. The following table presents net revenues by geographic region (in millions):

	Years Ended December 31,		
	2018	2017	2016
Americas:			
United States	\$ 2,339.1	\$ 2,712.6	\$ 2,737.0
Other	202.1	234.6	231.8
Total Americas	2,541.2	2,947.2	2,968.8
Europe, Middle East, and Africa	1,290.8	1,195.8	1,238.1
Asia Pacific	815.5	884.2	783.2
Total	\$ 4,647.5	\$ 5,027.2	\$ 4,990.1



**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

During the years ended December 31, 2018, 2017, and 2016, no customer accounted for greater than 10% of the Company's net revenues.

The following table presents geographic information for property and equipment, net and purchased intangible assets, net (in millions):

	As of December 31,	
	2018	2017
United States	\$ 941.7	\$ 1,005.1
International	128.5	144.1
Property and equipment, net and purchased intangible assets, net	<u>\$ 1,070.2</u>	<u>\$ 1,149.2</u>

The Company tracks assets by physical location. The majority of the Company's assets, excluding cash and cash equivalents and investments, as of December 31, 2018 and December 31, 2017, were attributable to U.S. operations.

**Note 14. Income Taxes**

The components of pretax income are summarized as follows (in millions):

	Years Ended December 31,		
	2018	2017	2016
Domestic	\$ 160.6	\$ 474.2	\$ 466.2
Foreign	372.1	337.6	361.2
Total pretax income	<u>\$ 532.7</u>	<u>\$ 811.8</u>	<u>\$ 827.4</u>

The (benefit) provision for income taxes is summarized as follows (in millions):

	Years Ended December 31,		
	2018	2017	2016
Current (benefit) provision:			
Federal	\$ (126.1)	\$ 594.3	\$ 121.4
States	9.0	13.9	10.3
Foreign	38.9	45.4	46.0
Total current (benefit) provision	<u>(78.2)</u>	<u>653.6</u>	<u>177.7</u>
Deferred (benefit) provision:			
Federal	36.6	(128.7)	57.2
States	2.2	(17.7)	4.3
Foreign	5.2	(1.6)	(4.5)
Total deferred (benefit) provision	<u>44.0</u>	<u>(148.0)</u>	<u>57.0</u>
Total (benefit) provision for income taxes	<u>\$ (34.2)</u>	<u>\$ 505.6</u>	<u>\$ 234.7</u>

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

The (benefit) provision for income taxes differs from the amount computed by applying the federal statutory rate of 21% for 2018 and 35% for 2017 and 2016, respectively, to pretax income as follows (in millions):

	Years Ended December 31,		
	2018	2017	2016
Expected provision at statutory rate	\$ 111.9	\$ 284.1	\$ 289.6
State taxes, net of federal benefit	7.4	12.0	8.9
Foreign income at different tax rates	(12.8)	(46.4)	(53.4)
R&D tax credits	(22.1)	(15.1)	(16.8)
Share-based compensation	4.7	—	10.5
Release of valuation allowance	—	(1.7)	(0.7)
Domestic production activities	—	(12.4)	(9.5)
Non-deductible compensation	1.9	1.6	2.4
Impact of the U.S. Tax Cuts and Jobs Act	2.8	289.5	—
Tax accounting method changes	(65.4)	—	—
Lapses in federal statutes of limitations	(67.6)	—	—
Other	5.0	(6.0)	3.7
<b>Total (benefit) provision for income taxes</b>	<b>\$ (34.2)</b>	<b>\$ 505.6</b>	<b>\$ 234.7</b>

In 2018, the Company recorded a \$67.6 million benefit related to a lapse in the federal statute of limitations relative to tax years 2010 through 2014, including interest, a \$33.2 million benefit as a result of filing a change in accounting method for the tax recognition of deferred product revenue in the U.S. to better align with the financial statement recognition of such revenue, and a \$32.2 million benefit resulting from tax accounting method change related to foreign deferred service revenue.

The Tax Act introduced significant changes to U.S. income tax law. Effective January 1, 2018, the Tax Act reduced the U.S. federal corporate income tax rate from 35% to 21%, created a minimum tax on foreign earnings and imposed a one-time transition tax on accumulated foreign earnings through December 31, 2017. In 2017, the Company recorded provisional amounts for the effects of the Tax Act of \$289.5 million primarily related to net taxes on accumulated foreign earnings and the re-measurement of the Company's deferred tax assets at the revised U.S. statutory rate. In the fourth quarter of 2018, the Company completed its analysis to determine the effect of the Tax Act and recorded immaterial adjustments as of December 31, 2018.

The Company accounts for U.S. tax on certain foreign subsidiaries income, which is referred to as Global Intangible Low-Taxed Income ("GILTI") in the year earned. Therefore, the Company has not provided any deferred tax impacts of GILTI in its Consolidated Financial Statements for the year ended December 31, 2018.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

Deferred income taxes reflect the net tax effects of tax carry-forward items and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's long-term deferred tax assets and deferred tax liabilities are as follows (in millions):

	As of December 31,	
	2018	2017
Deferred tax assets:		
Net operating loss carry-forwards	\$ 12.9	\$ 18.3
Research and other credit carry-forwards	220.0	198.8
Deferred revenue	37.7	103.5
Share-based compensation	26.1	31.1
Cost sharing adjustment	12.2	12.4
Reserves and accruals not currently deductible	62.7	76.7
Other	13.2	12.8
Total deferred tax assets	384.8	453.6
Valuation allowance	(233.7)	(214.5)
Deferred tax assets, net of valuation allowance	151.1	239.1
Deferred tax liabilities:		
Property and equipment basis differences	(40.6)	(42.5)
Purchased intangibles	(13.7)	(12.4)
Unremitted foreign earnings	(26.4)	(25.4)
Deferred compensation and other	(8.9)	(10.4)
Total deferred tax liabilities	(89.6)	(90.7)
Net deferred tax assets	\$ 61.5	\$ 148.4

Based on changes provided by the Tax Act, the Company re-measured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%.

As of December 31, 2018 and 2017, the Company had a valuation allowance on its U.S. domestic deferred tax assets of approximately \$233.7 million and \$214.5 million, respectively. The balance at December 31, 2018 consisted of approximately \$206.0 million, \$20.2 million and \$3.1 million against the Company's California, Massachusetts and Canadian deferred tax assets, respectively, which the Company believes are not more likely than not to be utilized in future years. The remaining deferred tax assets on which the Company recorded valuation allowance of approximately \$4.4 million related to losses that are capital in nature and may carry forward to offset future capital gains only. The valuation allowance increased in 2018 and 2017 by \$19.2 million and \$60.1 million, respectively, primarily related to the change in California, Massachusetts and Canadian R&D tax credits.

As of December 31, 2018, the Company had federal and California net operating loss carry-forwards of approximately \$54.4 million and \$150.4 million, respectively. The California net operating loss carry-forwards of \$150.4 million are expected to expire unused. The Company also had federal and California tax credit carry-forwards of approximately \$2.6 million and \$244.1 million, respectively. Unused net operating loss carry-forwards will expire at various dates beginning in the year 2019. The California tax credit carry-forwards will carry forward indefinitely.

As of December 31, 2018, 2017, and 2016, the total amount of gross unrecognized tax benefits was \$178.1 million, \$264.5 million, and \$223.1 million, respectively. As of December 31, 2018, approximately \$175.3 million of the \$178.1 million gross unrecognized tax benefits, if recognized, would affect the effective tax rate.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

A reconciliation of the beginning and ending amount of the Company's total gross unrecognized tax benefits was as follows (in millions):

	Years Ended December 31,		
	2018	2017	2016
Balance at beginning of year	\$ 264.5	\$ 223.1	\$ 216.1
Tax positions related to current year:			
Additions	4.3	64.6	27.2
Tax positions related to prior years:			
Additions	12.7	1.8	1.0
Reductions	(33.8)	(16.6)	(4.1)
Settlements	(2.6)	(4.0)	(14.3)
Lapses in statutes of limitations	(67.0)	(4.4)	(2.8)
Balance at end of year	<u>\$ 178.1</u>	<u>\$ 264.5</u>	<u>\$ 223.1</u>

As of December 31, 2018, 2017, and 2016, the Company had accrued interest and penalties related to unrecognized tax benefits of \$33.8 million, \$40.7 million, and \$31.3 million, respectively, to other long-term liabilities in the Consolidated Balance Sheets. Due to the changes in the level of gross unrecognized tax benefit, the Company recognized a benefit for net interest and penalties of \$5.2 million and an expense of \$8.5 million and \$6.0 million in its Consolidated Statements of Operations during the years ended December 31, 2018, 2017, and 2016, respectively.

On November 30, 2018, the Company received a final order from the India Supreme Court, which resolved the Company's dispute with the India Tax Authorities for the 2004 through 2008 income tax years. The final order from the Court effectively concludes the tax investigation for the respective tax years, and as a result the Company released \$5.4 million of previously unrecognized tax benefits, including \$4.6 million of interest and penalties.

In 2018, the U.K., German and Australian tax authorities concluded examinations of the 2016 tax year, 2010 through 2013 tax years and the 2016 through 2017 tax years, respectively, which did not have a material impact to the Company's financial statements.

The Company engages in continuous discussions and negotiations with tax authorities regarding tax matters in various jurisdictions. There is a greater than remote likelihood that the balance of the gross unrecognized tax benefits will decrease by approximately \$7.7 million within the next twelve months due to lapses of applicable statutes of limitation and the completion of tax review cycles in various tax jurisdictions.

The Company conducts business globally and, as a result, Juniper Networks or one or more of its subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, the Company is subject to examination by taxing authorities throughout the world, including such major jurisdictions as the Netherlands, U.K., France, Germany, Japan, China, Australia, India, and the U.S. With few exceptions, the Company is no longer subject to U.S. federal, state and local, and non-U.S. income tax examinations for years before 2007.

The Company is currently under examination by the IRS for the 2007 through 2009 tax years and by the India tax authorities for the 2009 through 2015 tax years. In March 2016, the IRS concluded its field audit and issued a final assessment. The Company is appealing this assessment. The examinations by the India tax authorities are ongoing. The Company regularly assesses the likelihood of an adverse outcome resulting from such examinations. As of December 31, 2018, the Company believes the resolution of the audits is unlikely to have a material effect on its consolidated financial condition or results of operations.

The Company is pursuing all available administrative remedies relative to these ongoing matters. The Company believes that it has adequately provided for any reasonably foreseeable outcomes related to these proposed adjustments and the ultimate resolution of these matters is unlikely to have a material effect on its consolidated financial condition or results of operations; however, there is still a possibility that an adverse outcome of these matters could have a material effect on its consolidated financial condition and results of operations.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 15. Net Income per Share**

The Company computed basic and diluted net income per share as follows (in millions, except per share amounts):

	Years Ended December 31,		
	2018	2017	2016
Numerator:			
Net income	\$ 566.9	\$ 306.2	\$ 592.7
Denominator:			
Weighted-average shares used to compute basic net income per share	349.0	377.7	381.7
Dilutive effect of employee stock awards	5.4	6.5	6.1
Weighted-average shares used to compute diluted net income per share	354.4	384.2	387.8
Net income per share:			
Basic	\$ 1.62	\$ 0.81	\$ 1.55
Diluted	\$ 1.60	\$ 0.80	\$ 1.53
Anti-dilutive shares	3.9	1.1	2.5

Basic net income per share is computed using net income available to common stockholders and the weighted-average number of common shares outstanding for the period. Diluted net income per share is computed using net income available to common stockholders and the weighted-average number of common shares outstanding plus potentially dilutive common shares outstanding during the period. Dilutive potential common shares consist of common shares issuable upon exercise of stock options, issuances of ESPP, and vesting of RSUs, RSAs, and PSAs. The Company includes the common shares underlying PSAs in the calculation of diluted net income per share only when they become contingently issuable. Anti-dilutive shares are excluded from the computation of diluted net income per share.

**Note 16. Commitments and Contingencies**
**Commitments**

The following table summarizes the Company's unconditional purchase obligations and future minimum payments under non-cancelable operating and other lease arrangements for each of the next five years and thereafter as of December 31, 2018 (in millions):

Years Ending December 31,	Unconditional Purchase Obligations	Leases	
		Operating Leases	Other Lease Arrangement
2019	\$ 43.1	\$ 33.7	\$ 13.1
2020	26.4	30.7	13.3
2021	11.4	24.3	13.6
2022	8.5	17.0	13.9
2023	5.5	14.3	14.2
Thereafter	2.9	26.3	32.9
Total	\$ 97.8	\$ 146.3	\$ 101.0

In December 2018, the Company entered into a Master Services Agreement and certain Statements of Work, (collectively, the "Agreement") with International Business Machines Corporation ("IBM") pursuant to which the Company will outsource significant portions of its IT and other administrative functions following a transition period. Under the Agreement, IBM will provide the Company a broad range of IT services such as applications, including support, development and maintenance; infrastructure management and support, including for servers, storage and network devices; and end user support including service desk. The Agreement has an initial term through 2026 over which period the Company will pay IBM a combination of fixed and variable fees, fluctuating based on the Company's actual need for the services utilized. The Company expects to pay IBM

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

approximately \$325.0 million . The table above does not include fees payable to IBM under the contract as the Company is unable to make a reasonably reliable estimate of the amount of the payments related to this contract due to uncertainties in the usage of the services.

*Unconditional Purchase Obligations*

Unconditional purchase obligations consist of agreements that include firm and non-cancelable terms to transfer funds in the future for fixed or minimum amounts or quantities to be purchased at fixed or minimum prices. These obligations primarily result from contracts entered into for the acquisition of software development services and product development. For obligations with cancellation provisions, the amounts included in the preceding table were limited to the non-cancelable portion of the agreement terms or the minimum cancellation fee.

In May 2018, the Company entered into a strategic alliance with Ericsson AB ("Ericsson") under which both companies have agreed to undertake certain development, testing and related work to bring specific products to market. The alliance has an initial term through 2023. As of December 31, 2018, the minimum fixed fees payable to Ericsson was \$18.0 million .

*Operating Leases*

The Company leases its facilities and certain equipment under non-cancelable operating leases that expire at various dates through November 2029 . Certain leases require the Company to pay variable costs such as taxes, maintenance, and insurance and include renewal options and escalation clauses. Rent expense for 2018 , 2017 , and 2016 was approximately \$39.0 million , \$39.3 million , and \$37.9 million , respectively.

*Other Lease Arrangement*

In July 2015, the Company entered into a lease arrangement through March 2026 for approximately 63,000 square feet of space in the State of Washington. The space is used, among other things, to consolidate certain of the Company's laboratory operations currently located in Sunnyvale, California.

Due to certain contractual obligations during the construction period, the Company was deemed the owner of the property during that period. The Company capitalized the construction costs by recording a build-to-suit lease asset and a corresponding build-to-suit financing liability. Upon the completion of construction in 2016, the Company concluded that it had a certain form of continuing economic involvement in the facility, which precluded sale-leaseback accounting treatment. As a result, a total of \$60.9 million of costs capitalized were placed in service and are being depreciated over the lease term. As of December 31, 2018 , the total payment under the lease agreement over the ten -year term is approximately \$101.0 million of which \$59.7 million is included in other-long term liabilities on the Consolidated Balance Sheets.

*Purchase Commitments with Contract Manufacturers and Suppliers*

In order to reduce manufacturing lead times and in the interest of having access to adequate component supply, the Company enters into agreements with contract manufacturers and certain suppliers to procure inventory based on the Company's requirements. A significant portion of the Company's purchase commitments arising from these agreements consists of firm and non-cancelable commitments. These purchase commitments totaled \$663.3 million as of December 31, 2018 .

The Company establishes a liability in connection with purchase commitments related to quantities in excess of its demand forecasts or obsolete materials charges for components purchased by the contract manufacturers based on the Company's demand forecast or customer orders. As of December 31, 2018 , the Company had accrued \$30.4 million based on its estimate of such charges.

*Debt and Interest Payment on Debt*

As of December 31, 2018 , the Company held total outstanding debt consisting of the Notes with a carrying value of \$2,139.0 million . See Note 10, *Debt and Financing* , for further discussion of the Company's long-term debt and expected future principal maturities.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

### *Tax Liability*

In the fourth quarter of 2018, the Company completed its analysis to determine the effect of the Tax Act and recorded immaterial adjustments as of December 31, 2018. The Company has elected to pay its transition tax, net of applicable tax refunds, over the eight-year period provided in the Tax Act. The long-term income taxes payable of \$245.2 million represents the remaining balance of the Company's transition tax obligation.

As of December 31, 2018, the Company had \$159.2 million included in long-term income taxes payable on the Consolidated Balance Sheets for unrecognized tax positions. At this time, the Company is unable to make a reasonably reliable estimate of the timing of payments related to this amount due to uncertainties in the timing of tax audit outcomes.

### *Guarantees*

The Company enters into agreements with customers that contain indemnification provisions relating to potential situations where claims could be alleged that the Company's products solely, or in combination with other third-party products, infringe the intellectual property rights of a third-party. As of December 31, 2018 and 2017, the Company recorded \$11.9 million and \$20.4 million, respectively, for such indemnification obligations in other accrued liabilities and other long-term liabilities on the Consolidated Balance Sheets. The Company also has financial guarantees consisting of guarantees of product and service performance and standby letters of credit for certain lease facilities and insurance programs of \$23.1 million and \$23.0 million, as of December 31, 2018 and December 31, 2017, respectively.

### *Legal Proceedings*

#### *Investigations*

The Company previously disclosed that it has been the subject of investigations by the U.S. Securities and Exchange Commission ("SEC") and the U.S. Department of Justice ("DOJ") into possible violations by the Company of the U.S. Foreign Corrupt Practices Act ("FCPA"). In cooperation with these investigations, the Company and the Audit Committee of the Board of Directors, with the assistance of outside counsel and other independent advisors, conducted a thorough internal investigation. As a result of its internal investigation, the Company made significant improvements in its internal controls and carried out a number of disciplinary actions. In the fourth quarter of 2017, the DOJ notified the Company that the DOJ has closed its investigation related to these matters without taking any action against the Company. The Company is continuing to fully cooperate with the SEC's ongoing investigation, and based on the Company's recent communications with the Staff of the SEC, the Company believes that it is likely that the Staff of the SEC will seek to bring an enforcement action against the Company. The Company believes it is probable that it could incur a loss and has established an estimated legal reserve of \$12.0 million related to the ongoing SEC investigation; however, as discussions are continuing, there can be no assurance as to the timing or the terms of any final resolution of this matter.

#### *Other Litigations and Investigations*

In addition to the investigations discussed above, the Company is involved in other investigations, disputes, litigations, and legal proceedings. The Company records an accrual for loss contingencies for legal proceedings when it believes that an unfavorable outcome is both (a) probable and (b) the amount or range of any possible loss is reasonably estimable. The Company intends to aggressively defend itself in these matters, and while there can be no assurances and the outcome of these matters is currently not determinable, the Company currently believes that none of these existing claims or proceedings are likely to have a material adverse effect on its financial position. Notwithstanding the foregoing, there are many uncertainties associated with any litigation and these matters or other third-party claims against the Company may cause the Company to incur costly litigation and/or substantial settlement charges. In addition, the resolution of any intellectual property litigation may require the Company to make royalty payments, which could adversely affect gross margins in future periods. If any of those events were to occur, the Company's business, financial condition, results of operations, and cash flows could be adversely affected. The actual liability in any such matters may be materially different from the Company's estimates, if any, which could result in the need to adjust the liability and record additional expenses.

**Juniper Networks, Inc.**  
**Notes to Consolidated Financial Statements (Continued)**

**Note 17. Selected Quarterly Financial Data (Unaudited)**

The table below sets forth selected unaudited financial data for each quarter of the years ended December 31, 2018 and December 31, 2017 (in millions, except per share amounts):

	Year Ended December 31, 2018				Year Ended December 31, 2017			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net revenues	\$ 1,082.6	\$ 1,204.1	\$ 1,179.8	\$ 1,181.0	\$ 1,221.0	\$ 1,308.9	\$ 1,257.8	\$ 1,239.5
Gross margin	618.4	700.9	711.0	710.9	746.6	801.9	772.4	751.2
Income before income taxes	41.4	150.9	152.0	188.4	140.6	245.2	225.8	200.2
Net income (loss) <sup>(1)</sup>	\$ 34.4	\$ 116.5	\$ 223.8	\$ 192.2	\$ 108.8	\$ 179.8	\$ 165.7	\$ (148.1)
Net income (loss) per share: <sup>(2)</sup>								
Basic	\$ 0.10	\$ 0.33	\$ 0.65	\$ 0.56	\$ 0.29	\$ 0.47	\$ 0.44	\$ (0.40)
Diluted <sup>(3)</sup>	\$ 0.10	\$ 0.33	\$ 0.64	\$ 0.55	\$ 0.28	\$ 0.47	\$ 0.43	\$ (0.40)

<sup>(1)</sup> Net income for the third and fourth quarters of 2018 include a lower statutory tax rate due to the Tax Act and tax benefits related to items unique to 2018. See Note 14, *Income Taxes*, for further discussion. Net loss for the fourth quarter of 2017 includes an estimated \$289.5 million of tax expense related to the Tax Act, and restructuring charges of \$36.2 million.

<sup>(2)</sup> Net income (loss) per share is computed independently. Therefore, the sum of the quarterly net income per share may not equal the total computed for the year or any cumulative interim period.

<sup>(3)</sup> Potentially dilutive common shares for the fourth quarter of 2017 were excluded from the computation of diluted net loss per share because their effect would be anti-dilutive.

**Note 18. Subsequent Events*****Restructuring***

In January 2019, the Company initiated a restructuring plan (the "2019 Restructuring Plan") designed to realign its workforce with the Company's sales strategy, improve productivity, and enhance cost efficiencies. The 2019 Restructuring Plan consists of workforce reductions and facility consolidations and closures. The Company estimates that the implementation of the 2019 Restructuring Plan will result in total charges of approximately \$18.0 million to \$22.0 million.

***Dividend Declaration***

On January 29, 2019, the Company announced that the Board declared a quarterly cash dividend of \$0.19 per share of common stock to be paid on March 22, 2019 to stockholders of record as of the close of business on March 1, 2019.



**ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Not applicable.

**Item 9A. Controls and Procedures**

(a) *Management's Annual Report on Internal Control Over Financial Reporting*: See "Management's Annual Report on Internal Control over Financial Reporting" under Item 8 of Part II of this Report, which is incorporated herein by reference.

(b) For the "Report of Independent Registered Public Accounting Firm," see the report under Item 8 of Part II of this Report, which is incorporated herein by reference.

**Evaluation of Disclosure Controls and Procedures**

Attached, as exhibits to this report are certifications of our principal executive officer and principal financial officer, which are required in accordance with Rule 13a-14 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). This "Controls and Procedures" section includes information concerning the controls and related evaluations referred to in the certifications and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

We carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Based upon that evaluation, our principal executive officer and principal financial officer concluded that, as of the end of the period covered in this Report, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

**Changes in Internal Controls Over Financial Reporting**

There were no changes in our internal control over financial reporting during the fourth quarter of 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**ITEM 9B. Other Information**

As previously disclosed, the employment of Terrance F. Spidell, the Company's Chief Accounting Officer, will terminate the business day following the filing of this Report with the SEC. Effective immediately upon Mr. Spidell's termination, Kenneth B. Miller, our Executive Vice President and Chief Financial Officer, will assume the role as the Company's Interim Chief Accounting Officer.

Information regarding Mr. Miller's background and business experience is included in this Annual Report on Form 10-K under Item 1. *Business*, Executive Officers of the Registrant.

No material plan, contract, or arrangement was entered into or materially amended in connection with Mr. Miller's appointment as the Company's Interim Chief Accounting Officer, and there was no grant or award to Mr. Miller or modification thereto under any such plan, contract, or arrangement in connection with such appointment.

Mr. Miller is not a party to any transaction that would require disclosure under Item 404(a) of Regulation S-K. There are no family relationships between Mr. Miller and any of the Company's directors or executive officers.

## PART III

### **ITEM 10. *Directors, Executive Officers and Corporate Governance***

For information with respect to our executive officers, see Part I, Item 1 of this Annual Report on Form 10-K, under “Executive Officers of the Registrant.”

Information concerning our directors, including director nominations, and our audit committee and audit committee financial expert, is included in our definitive Proxy Statement to be filed with the SEC in connection with our 2019 Annual Meeting of Stockholders (the “Proxy Statement”) under “Corporate Governance Principles and Board Matters,” and “Election of Directors” and is incorporated herein by reference.

Information concerning Section 16(a) beneficial ownership reporting compliance is included in the Proxy Statement under “Section 16(a) Beneficial Ownership Reporting Compliance” and is incorporated herein by reference.

Information concerning our worldwide code of business conduct that applies to our principal executive officer and all other employees is included in the Proxy Statement under “Corporate Governance Principles and Board Matters” and is incorporated herein by reference.

### **ITEM 11. *Executive Compensation***

Information required by Item 402 of Regulation S-K is included in the Proxy Statement under “Director Compensation,” and “Executive Compensation,” and is incorporated herein by reference.

Information concerning compensation committee interlocks and insider participation appearing in the Proxy Statement under “Compensation Committee Interlocks and Insider Participation” is incorporated herein by reference.

Information concerning the compensation committee report appearing in the Proxy Statement under “Compensation Committee Report” is incorporated herein by reference.

### **ITEM 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

Information concerning the security ownership of certain beneficial owners and management is included in the Proxy Statement under “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” and is incorporated herein by reference.

Information concerning our equity compensation plan information is included in the Proxy Statement under “Equity Compensation Plan Information” and is incorporated herein by reference.

### **ITEM 13. *Certain Relationships and Related Transactions, and Director Independence***

Information concerning certain relationships and related transactions is included in the Proxy Statement under the heading “Certain Relationships and Related Transactions” and is incorporated herein by reference.

Information concerning director independence is included in the Proxy Statement under the heading “Board Independence” and is incorporated herein by reference.

### **ITEM 14. *Principal Accounting Fees and Services***

Information concerning principal accountant fees and services and the audit committee's pre-approval policies and procedures is included in the Proxy Statement under the heading “Principal Accountant Fees and Services” and is incorporated herein by reference.

**PART IV**

**ITEM 15. Exhibits and Financial Statement Schedules**

(a) The following documents are filed as part of this Report:

1. Consolidated Financial Statements

See Index to Consolidated Financial Statements at Item 8 herein.

2. Financial Statement Schedules

**Juniper Networks, Inc.**

**Schedule II - Valuation and Qualifying Accounts  
Years Ended December 31, 2018, 2017, and 2016  
(In millions)**

	Balance at Beginning of Year	Charged to (Reversed from) Costs and Expenses	Write-offs, Net of Recoveries	Balance at End of Year
<b>Allowance for Doubtful Accounts</b>				
2018	\$ 5.7	\$ (0.8)	\$ —	\$ 4.9
2017	\$ 7.6	\$ (2.0)	\$ 0.1	\$ 5.7
2016	\$ 9.3	\$ 1.0	\$ (2.7)	\$ 7.6

	Balance at Beginning of Year	Additions		Used	Balance at End of Year
		Charged as a Reduction in Revenues	Charged to Other Accounts		
<b>Sales Return Reserve</b>					
2018 (*)	\$ 44.5	\$ 70.7	\$ —	\$ (82.5)	\$ 32.7
2017	\$ 71.4	\$ 25.0	\$ 65.9	\$ (107.1)	\$ 55.2
2016	\$ 71.2	\$ 44.6	\$ 89.6	\$ (134.0)	\$ 71.4

(\*) Upon adoption of Topic 606, the Company recorded a reduction of \$10.7 million as part of the cumulative effect adjustment to the January 1, 2018 opening accumulated deficit balance on the Consolidated Balance Sheet. See Note 2. *Significant Accounting Policies*, for further information on the cumulative effect of the changes made to the Company's Consolidated Balance Sheet as of January 1, 2018 for the adoption of Topic 606.

All other schedules have been omitted as the required information is not applicable or the information is presented in the Consolidated Financial Statements or notes thereto under Item 8 herein.

3. Exhibits

Exhibit No.	Exhibit	Incorporated by Reference			
		Filing	Exhibit No.	File No.	File Date
3.1	<a href="#">Restated Certificate of Incorporation of Juniper Networks, Inc. and Certificate of Amendment</a>	S-8	4.1	333-218344	5/30/2017
3.2	<a href="#">Amended and Restated Bylaws of Juniper Networks, Inc.</a>	8-K	3.2	001-34501	5/30/2017
4.1	<a href="#">Indenture, dated March 3, 2011, by and between Juniper Networks, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee</a>	8-K	4.1	001-34501	3/4/2011
4.2	<a href="#">First Supplemental Indenture, dated March 3, 2011, by and between Juniper Networks, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee</a>	8-K	4.8	001-34501	3/4/2011
4.3	<a href="#">Second Supplemental Indenture, dated March 4, 2014, by and between Juniper Networks, Inc. and The Bank of New York</a>	8-K	4.1	001-34501	3/4/2014
4.4	<a href="#">Third Supplemental Indenture, dated March 4, 2015, by and between Juniper Networks, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee</a>	8-K	4.1	001-34501	3/10/2015
4.5	<a href="#">Fourth Supplemental Indenture, dated February 26, 2016, by and between Juniper Networks, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee</a>	8-K	4.1	001-34501	2/29/2016
4.6	<a href="#">Fifth Supplemental Indenture, dated February 26, 2016, by and between Juniper Networks, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee</a>	8-K	4.2	001-34501	2/29/2016
4.7	<a href="#">Form of Note for Juniper Networks, Inc.'s 4.600% Senior Notes due 2021</a>	8-K	4.8	001-34501	3/4/2011
4.8	<a href="#">Form of Note for Juniper Networks, Inc.'s 5.950% Senior Notes due 2041</a>	8-K	4.8	001-34501	3/4/2011
4.9	<a href="#">Form of Note for Juniper Networks, Inc.'s 4.500% Senior Notes due 2024</a>	8-K	4.1	001-34501	3/4/2014
4.10	<a href="#">Form of Note for Juniper Networks, Inc.'s 3.300% Senior Notes due 2020</a>	8-K	4.1	001-34501	3/10/2015
4.11	<a href="#">Form of Note for Juniper Networks, Inc.'s 4.350% Senior Notes due 2025</a>	8-K	4.1	001-34501	3/10/2015
4.12	<a href="#">Form of Note for Juniper Networks, Inc.'s 3.125% Senior Notes due 2019</a>	8-K	4.1	001-34501	2/29/2016
10.1	<a href="#">Form of Indemnification Agreement entered into by the Registrant with each of its directors, officers and certain employees+</a>	10-Q	10.1	000-26339	11/14/2003
10.2	<a href="#">Form of Indemnification Agreement entered into by the Registrant with each of its directors, officers and certain employees, approved for use on November 1, 2016+</a>	10-K	10.2	001-34501	2/24/2017
10.3	<a href="#">Juniper Networks, Inc. 2006 Equity Incentive Plan, as amended October 2, 2014+</a>	10-Q	10.9	001-34501	11/10/2014
10.4	<a href="#">Form of Notice of Grant and Restricted Stock Unit Agreement for the Juniper Networks, Inc. 2006 Equity Incentive Plan+</a>	10-K	10.20	000-26339	2/29/2008
10.5	<a href="#">Form of Notice of Grant and Performance Share Agreement for the Juniper Networks, Inc. 2006 Equity Incentive Plan+</a>	10-K	10.21	000-26339	2/29/2008
10.6	<a href="#">Form of India Restricted Stock Unit Agreement under the Juniper Networks, Inc. 2006 Equity Incentive Plan+</a>	10-Q	10.3	000-26339	5/9/2008
10.7	<a href="#">Australian Addendum to the Juniper Networks, Inc. 2006 Equity Incentive Plan, as amended+</a>	10-Q	10.2	000-34501	11/5/2010
10.8	<a href="#">Amended and Restated Juniper Networks, Inc. Performance Bonus Plan, effective January 1, 2017+</a>	8-K	10.1	001-34501	5/27/2016
10.9	<a href="#">BTI Systems Inc. Amended and Restated 2012 Stock Option Plan and Long-Term Incentive Plan+</a>	S-8	4.3	333-211821	6/3/2016
10.10	<a href="#">Aurrion, Inc. Amended and Restated 2008 Equity Incentive Plan+</a>	S-8	4.3	333-213490	9/2/2016
10.11	<a href="#">AppFormix Inc. Amended and Restated 2013 Stock Plan+</a>	10-K	10.16	001-34501	2/24/2017
10.12	<a href="#">Juniper Networks, Inc. Deferred Compensation Plan+</a>	S-8	4.4	333-151669	6/16/2008
10.13	<a href="#">Cyphort Inc. Amended &amp; Restated 2011 Stock Incentive Plan+</a>	S-8	4.3	333-221422	11/8/2017

[Table of Contents](#)

Exhibit No.	Exhibit	Incorporated by Reference			
		Filing	Exhibit No.	File No.	File Date
10.14	<a href="#">Amended and Restated Juniper Networks, Inc. 2015 Equity Incentive Plan+</a>	8-K	10.1	001-34501	5/30/2017
10.15	<a href="#">HTBase Corporation 2018 Equity Incentive Plan and Forms of Award Agreement Thereunder*+</a>				
10.16	<a href="#">Amended and Restated Juniper Networks, Inc. 2008 Employee Stock Purchase Plan+</a>	10-K	10.19	001-34501	2/23/2018
10.17	<a href="#">Form of Restricted Stock Unit Agreement effective as of May 19, 2015+</a>	8-K	10.2	001-34501	5/20/2015
10.18	<a href="#">Form of Performance Share Agreement effective as of May 19, 2015+</a>	8-K	10.3	001-34501	5/20/2015
10.19	<a href="#">Form of Stock Option Agreement effective as of May 19, 2015+</a>	8-K	10.4	001-34501	5/20/2015
10.20	<a href="#">Form of Severance Agreement for Certain Officers, approved for use on September 19, 2016+</a>	8-K	10.1	001-34501	9/20/2016
10.21	<a href="#">Form of Severance Agreement for Certain Officers, approved for use on August 29, 2017+</a>	8-K	10.2	001-34501	8/31/2017
10.22	<a href="#">Severance Agreement, dated September 5, 2017, between Juniper Networks, Inc. and Bikash Koley+</a>	10-Q	10.6	001-34501	11/7/2017
10.23	<a href="#">Form of Change of Control Agreement for Certain Officers, approved for use on September 19, 2016+</a>	8-K	10.2	001-34501	9/20/2016
10.24	<a href="#">Form of Change of Control Agreement for Certain Officers, approved for use on August 29, 2017+</a>	8-K	10.1	001-34501	8/31/2017
10.25	<a href="#">Change of Control Agreement, dated September 5, 2017, between Juniper Networks, Inc. and Bikash Koley+</a>	10-Q	10.5	001-34501	11/7/2017
10.26	<a href="#">Settlement, Release and Cross-License Agreement, dated May 27, 2014, by and between Juniper Networks, Inc. and Palo Alto Networks, Inc.</a>	8-K	10.1	001-34501	5/29/2014
10.27	<a href="#">Credit Agreement, dated as of June 27, 2014, by and among Juniper Networks, Inc., the lenders from time to time party thereto and Citibank, N.A., as administrative agent</a>	8-K	10.1	001-34501	6/27/2014
10.28	<a href="#">Letter Amendment to Credit Agreement, dated as of November 21, 2017, by and among Juniper Networks, Inc., the lenders from time to time party thereto and Citibank, N.A., as administrative agent</a>	10-K	10.31	001-34501	2/23/2018
10.29	<a href="#">Master Services Agreement, dated December 31, 2018, between Juniper Networks, Inc. and International Business Machines Corporation, as amended on January 4, 2019*†</a>				
10.30	<a href="#">Employment Offer Letter, dated November 18, 2014, between Juniper Networks, Inc. and Rami Rahim+</a>	8-K	10.1	001-34501	11/24/2014
10.31	<a href="#">Employment Offer Letter between Juniper Networks, Inc. and Brian Martin+</a>	10-Q	10.2	001-34501	11/5/2015
10.32	<a href="#">Compensation Letter, dated August 9, 2017, between Juniper Networks, Inc. and Anand Athreya+</a>	10-Q	10.3	001-34501	11/7/2017
10.33	<a href="#">Employment Offer Letter, dated August 9, 2017, between Juniper Networks, Inc. and Bikash Koley+</a>	10-Q	10.4	001-34501	11/7/2017
10.34	<a href="#">Employment Offer Letter, dated March 5, 2018, between Juniper Networks, Inc. and Manoj Leelanivas+</a>	10-Q	10.3	001-34501	5/8/2018
10.35	<a href="#">Letter Agreement, dated May 4, 2018, between Juniper Networks, Inc. and Vincent Molinaro+</a>	10-Q	10.4	001-34501	5/8/2018
10.36	<a href="#">Letter Agreement, dated May 24, 2018, between Juniper Networks, Inc. and Terrance F. Spidell+</a>	8-K	10.1	001-34501	5/29/2018
10.37	<a href="#">Amendment to Letter Agreement, dated November 5, 2018, between Juniper Networks, Inc. and Terrance F. Spidell+</a>	10-Q	10.3	001-34501	11/7/2018
10.38	<a href="#">Letter Agreement, dated June 19, 2018, between Juniper Networks, Inc. and Pierre-Paul Allard+</a>	10-Q	10.1	001-34501	11/7/2018
10.39	<a href="#">Form of Executive Compensation Recovery Agreement for Certain Officers, approved for use in November 2015+</a>	10-K	10.60	001-34501	2/29/2016
10.40	<a href="#">Form of Indemnification Agreement entered into by Juniper Networks, Inc. with each of its directors, officers and certain employees, approved for use on August 9, 2018+</a>	8-K	10.1	001-34501	8/10/2018

Exhibit No.	Exhibit	Incorporated by Reference			
		Filing	Exhibit No.	File No.	File Date
10.41	<a href="#">Share Repurchase Transaction Agreement, dated February 12, 2018 between Juniper Networks, Inc. and Barclays Bank PLC, Inc., through its agent Barclays Capital, Inc.</a>	10-Q	10.1	001-34501	5/8/2018
10.42	<a href="#">Share Repurchase Transaction Agreement, dated February 12, 2018 between Juniper Networks, Inc. and Wells Fargo Bank, National Association</a>	10-Q	10.2	001-34501	5/8/2018
21.1	<a href="#">Subsidiaries of the Company*</a>				
23.1	<a href="#">Consent of Independent Registered Public Accounting Firm*</a>				
24.1	Power of Attorney (included on the signature page to the Report)				
31.1	<a href="#">Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934*</a>				
31.2	<a href="#">Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934*</a>				
32.1	<a href="#">Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**</a>				
32.2	<a href="#">Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**</a>				
101	The following materials from Juniper Networks Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Operations, (ii) Consolidated Statements of Comprehensive Income, (iii) Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, and (v) Consolidated Statements of Changes in Stockholders' Equity, and (iv) Notes to Consolidated Financial Statements, tagged as blocks of text*				
101.INS	XBRL Instance Document*				
101.SCH	XBRL Taxonomy Extension Schema Document*				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document*				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*				

\* Filed herewith

\*\* Furnished herewith

+ Indicates management contract or compensatory plan, contract or arrangement.

† Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment that has been separately filed with the Securities and Exchange Commission.

(b) Exhibits

See Exhibits in Item 15(a)(3) above in this Report.

(c) None

**ITEM 16. Form 10-K Summary**

Not applicable.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Juniper Networks, Inc.

February 22, 2019 By: /s/ Kenneth B. Miller  
 Kenneth B. Miller  
*Executive Vice President, Chief Financial Officer*  
 (Duly Authorized Officer and Principal Financial Officer)

February 22, 2019 By: /s/ Terrance F. Spidell  
 Terrance F. Spidell  
*Vice President, Corporate Controller and Chief Accounting Officer*  
 (Duly Authorized Officer and Principal Accounting Officer)

**POWER OF ATTORNEY**

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Rami Rahim, Brian Martin, and Kenneth Miller, and each of them individually, as his or her attorney-in-fact, each with full power of substitution, for him or her in any and all capacities to sign any and all amendments to this Annual Report on Form 10-K, and to file the same with, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his or her substitute, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Rami Rahim</u> Rami Rahim	Chief Executive Officer and Director (Principal Executive Officer)	February 22, 2019
<u>/s/ Kenneth B. Miller</u> Kenneth B. Miller	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 22, 2019
<u>/s/ Terrance F. Spidell</u> Terrance F. Spidell	Vice President, Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)	February 22, 2019
<u>/s/ Scott Kriens</u> Scott Kriens	Chairman of the Board	February 22, 2019
<u>/s/ Robert M. Calderoni</u> Robert M. Calderoni	Director	February 22, 2019

[Table of Contents](#)

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Rahul Merchant</u> Rahul Merchant	Director	February 22, 2019
<u>/s/ James Dolce</u> James Dolce	Director	February 22, 2019
<u>/s/ Mercedes Johnson</u> Mercedes Johnson	Director	February 22, 2019
<u>/s/ Kevin DeNuccio</u> Kevin DeNuccio	Director	February 22, 2019
<u>/s/ Gary Daichendt</u> Gary Daichendt	Director	February 22, 2019
<u>/s/ William R. Stensrud</u> William R. Stensrud	Director	February 22, 2019



## HTBASE CORPORATION

## 2018 EQUITY INCENTIVE PLAN

Adopted by the Board of Directors on November 27, 2018  
Approved by the Stockholders on November 27, 2018

1. Purposes of the Plan. The Plan is intended to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to Service Providers and to promote the success of the Company's business.

2. Definitions. As used herein, the following definitions shall apply:

(a) "Administrator" means the Board or any of its Committees as shall be administering the Plan, in accordance with Section 4 of the Plan; provided that following any merger of the Company with or into another corporation or entity or a Change in Control, the Administrator means any Compensation Committee of the Board of Directors of the successor corporation or its Parent (provided further that such Compensation Committee may delegate certain responsibilities to a committee comprised of members of the board, officers or employees of the Company and/or Company's successor).

(b) "Applicable Laws" means the requirements relating to the administration of equity incentive plans, the grant of Awards and the related issuance of Shares under Canadian laws, U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and under the laws, rules and regulations of any foreign country or jurisdiction where Awards are, or will be, granted under the Plan or where Participants may reside and/or work, as such requirements shall be in place from time to time.

(c) "Award" means, individually or collectively, a grant under the Plan of Restricted Stock Units.

(d) "Award Agreement" means the written or electronic agreement, in such form as the Administrator prescribes from time to time, setting forth the terms and provisions applicable to each Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.

(e) "Board" means the Board of Directors of the Company.

(f) "Change in Control" means the occurrence of any of the following events:

(i) A change in the ownership of the Company which occurs on the date that any one person, or more than one person acting as a group ("Person"), acquires ownership of the stock of the Company that, together with the stock held by such Person, constitutes more than fifty percent (50%) of the total voting power of the stock of the Company; provided, however, that for purposes of this subsection, the acquisition of additional stock by any Person, who is considered to own more than fifty percent (50%) of the total voting power of the stock of the Company will not be considered a Change in Control; or

(ii) A change in the ownership of a substantial portion of the Company's assets which occurs on the date that any Person acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) assets from the Company that have a total gross fair market value equal to or more than fifty percent (50%) of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions; provided, however, that for purposes of this subsection (ii), the following will not constitute a change in the ownership of a substantial portion of the Company's assets: (A) a transfer to an entity that is controlled by the Company's stockholders immediately after the transfer (provided that such entity is controlled in substantially the same proportions by the Company's stockholders who held the Company's securities immediately before such transfer), or (B) a transfer of assets by the Company to: (1) a stockholder of the Company (immediately before the asset transfer) in exchange for the Company's stock (provided that the value of the Company's stock exchanged for such assets shall be substantially equal to or greater than the value of such assets, as determined by the Board), (2) an entity, fifty percent (50%) or more of the total value or voting power of which is owned, directly or indirectly, by the Company, (3) a Person, that owns, directly or indirectly, fifty percent (50%) or more of the total value or voting power of all the outstanding stock of the Company, or (4) an entity, at least fifty percent (50%) of the total value or voting power of which is owned, directly or indirectly, by a Person described in this subsection (ii)(B)(3). For purposes

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of this subsection (ii), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

For purposes of this definition, persons will be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the Company.

Notwithstanding the foregoing, to the extent required for compliance with Code Section 409A, a transaction will not be deemed a Change in Control unless the transaction qualifies as a change in control event within the meaning of Code Section 409A, as it has been and may be amended from time to time, and any proposed or final Treasury Regulations and Internal Revenue Service guidance that has been promulgated or may be promulgated thereunder from time to time.

Further and for the avoidance of doubt, a transaction will not constitute a Change in Control if: (i) its sole purpose is to change the state of the Company's incorporation, or (ii) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction.

(g) “Code” means the U.S. Internal Revenue Code of 1986, as amended.

(h) “Common Stock” means the common shares of the Company.

(i) “Committee” means a committee of Directors or of other individuals satisfying Applicable Laws appointed by the Board or a duly authorized committee of the Board, in accordance with Section 4(a) of the Plan.

(j) “Company” means HTBase Corporation, a corporation incorporated under the laws of the Province of Ontario, or any successor thereto.

(k) “Company Group” means the Company, any Parent or Subsidiary, and any entity that, from time to time and at the time of any determination, directly or indirectly, is in control of, is controlled by or is under common control with the Company.

(l) “Consultant” means any natural person engaged by the Company Group to render services and who is compensated for such services, but who is neither an Employee nor a Director; provided, that a Consultant will include only those persons to whom the issuance of Common Stock may be registered under Form S-8 under the U.S. Securities Act of 1933, as amended.

(m) “Director” means a member of the Board.

(n) “Disability” means total and permanent disability as defined in Section 22(e)(3) of the Code, provided that in the case of Awards, the Administrator in its discretion may determine whether a permanent and total disability exists in accordance with uniform and non-discriminatory standards adopted by the Administrator from time to time.

(o) “Employee” means any person employed by the Company or any member of the Company Group.

(p) [Reserved].

(q) “Fair Market Value” means the closing sales price of Common Stock on the date of determination. In addition, for purposes of determining the fair market value of Shares for any reason, fair market value will be determined by the Administrator in a manner compliant with Applicable Laws and applied consistently for such purpose. The determination of fair market value for purposes of tax withholding may be made in the Administrator's sole discretion subject to Applicable Laws and is not required to be consistent with the determination of Fair Market Value for other purposes.

(r) “Parent” means a “parent corporation”, whether now or hereafter existing, as defined in Section 424(e) of the Code.

(s) “Participant” means the holder of an outstanding Award.

(t) “Plan” means this 2018 Equity Incentive Plan.

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(u) “Restricted Stock Unit” means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 5. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company, subject to the terms and conditions of the applicable Restricted Stock Unit Award Agreement, and each holder of a Restricted Stock Unit shall have no rights other than those of a general creditor of the Company.

(v) “Section 409A” means Section 409A of the Code.

(w) “Service Provider” means an Employee, Consultant or Director.

(x) “Share” means a share of the Common Stock, as adjusted in accordance with Section 7 of the Plan.

(y) “Subsidiary” means with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(z) “Tax Obligations” means tax and social insurance liability obligations and requirements in connection with the Awards, including, without limitation, (A) all federal, state, and local taxes (including the Participant’s Federal Insurance Contributions Act (FICA) obligation or other payroll taxes) that are required to be withheld by an entity in the Company Group, (B) any fringe benefit tax liability the responsibility for which the Participant has, or has agreed to bear, with respect to such Award or the Shares subject to the Award, and (C) any other taxes of an entity in the Company Group the responsibility for which the Participant has, or has agreed to bear, with respect to such Award or the Shares subject to the Award.

### 3. Stock Subject to the Plan.

(a) Stock Subject to the Plan. Subject to the provisions of Section 7 of the Plan, the maximum aggregate number of Shares that may be issued under this Plan is equal to 384,942 Shares.

(b) Lapsed Awards. If an Award is forfeited to the Company due to such Award failing to vest, the forfeited Shares which were subject thereto shall become available for future grant or sale under the Plan (unless the Plan has terminated). Shares that have actually been issued under the Plan under any Award shall not be returned to the Plan and shall not become available for future distribution under the Plan. Shares that are subject to an Award Agreement that are used to satisfy Tax Obligations shall not become available for future grant or sale under the Plan. To the extent an Award under the Plan is paid out in cash rather than stock, such cash payment shall not reduce the number of Shares available for issuance under the Plan. Any payout of Awards that are payable only in cash shall not reduce the number of Shares available for issuance under the Plan. Conversely, any forfeiture of Awards that are payable only in cash shall not increase the number of Shares available for issuance under the Plan.

### 4. Administration of the Plan.

(a) Procedure.

(i) Multiple Administrative Bodies. If permitted by Applicable Laws, the Plan may be administered by different Committees with respect to different groups of Service Providers.

(ii) Administration With Respect to Other Persons. Other than as provided above, the Plan shall be administered by (A) the Board, (B) a committee designated by the Board, or (C) a sub-committee designated by the designated Committee, which Committee or sub-committee shall be constituted to satisfy Applicable Laws. Once appointed, such Committee shall serve in its designated capacity until otherwise directed by the Board. The Board may increase the size of the Committee and appoint additional members, remove members and substitute new members, fill vacancies, and remove all members of the Committee and thereafter directly administer the Plan, all to the extent permitted by Applicable Laws.

(b) Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator shall have the authority, in its discretion:

(i) to determine the Fair Market Value in accordance with Section 2(q) of the Plan;

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- (ii) to select the Service Providers to whom Awards may be granted hereunder;
- (iii) to determine whether and to what extent Awards are granted hereunder;
- (iv) to determine the number of shares of Common Stock to be covered by each Award granted hereunder;
- (v) to approve forms of agreement for use under the Plan, which, for the avoidance of doubt, need not be identical for each

Participant or Award;

(vi) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder. Such terms and conditions include, but are not limited to, the exercise price, the time or times when Awards vest or may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions (subject to compliance with Applicable Laws, including Code Section 409A), and any restriction or limitation regarding any Award or the Shares relating thereto, based in each case on such factors as the Administrator, in its sole discretion, shall determine;

(vii) to construe and interpret the terms of the Plan, Awards granted pursuant to the Plan and any other agreement defining the rights and obligations of the Company and the Participants under the Plan;

(viii) to prescribe, amend and rescind rules and regulations relating to the Plan;

(ix) to modify or amend each Award;

(x) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator;

(xi) to determine the terms and restrictions applicable to Awards;

(xii) to adopt such modifications, procedures, plans and sub-plans as may be necessary, desirable or appropriate to comply with provisions of the laws of the United States or any other country, to allow for tax-preferred treatment of Awards or otherwise provide for or facilitate the participation by Participants who reside outside of the United States, in order to assure the viability of the benefits of Awards made to Participants located in the United States or such other jurisdictions and to further the objectives of the Plan; and

(xiii) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) Effect of Administrator's Decision. All decisions, determinations and interpretations of the Administrator shall be final and binding on all Participants and any other holders of any Awards granted under the Plan.

#### 5. Restricted Stock Units.

(a) Grant. Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator. After the Administrator determines that it will grant Restricted Stock Units under the Plan, it shall advise the Participant in writing or electronically of the terms, conditions, and restrictions related to the grant, including the number of Restricted Stock Units and the form of payout, which may be left to the discretion of the Administrator. Until the Shares are issued, no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the Restricted Stock Units to acquire Shares.

(b) Vesting Criteria and Other Terms. The Administrator shall set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant. The Administrator may set vesting criteria based upon the achievement of Company-wide, business unit, or individual goals (including, but not limited to, continued employment), or any other basis determined by the Administrator in its discretion.

(c) Earning Restricted Stock Units. Upon meeting the applicable vesting criteria, the Participant shall be entitled to receive a payout as specified in the Restricted Stock Unit Award Agreement. Notwithstanding the foregoing, at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.

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(d) Form and Timing of Payment. Payment of earned Restricted Stock Units shall be made as soon as practicable after the date(s) set forth in the Restricted Stock Unit Award Agreement. Earned Restricted Stock Units shall only be settled in Shares .

(e) Cancellation. On the date set forth in the Restricted Stock Unit Award Agreement, all unearned Restricted Stock Units shall be forfeited to the Company.

6. Tax Provisions.

(a) Withholding Requirements. Prior to the delivery of any Shares pursuant to an Award or such earlier time as any Tax Obligations are due, the Company and/or any entity in the Company Group will have the power and the right to deduct or withhold, or require a Participant to remit to the Company and/or the appropriate entity in the Company Group, an amount sufficient to satisfy all Tax Obligations.

(b) Withholding Arrangements. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may designate the method or methods by which a Participant may satisfy such Tax Obligations. As determined by the Administrator in its discretion from time to time, these methods may include one or more of the following (A) paying cash, (B) having the Company withhold otherwise deliverable cash or Shares having a fair market value equal to the Tax Obligations, (C) delivering to the Company already-owned Shares having a fair market value equal to the Tax Obligations, (D) selling a sufficient number of Shares otherwise deliverable to the Participant through such means as the Administrator may determine in its sole discretion (whether through a broker or otherwise) equal to the Tax Obligations, (E) retaining from salary or other amounts payable to the Participant cash having a sufficient value to satisfy the Tax Obligations, or (F) any other means which the Administrator, in its sole discretion, determines to both comply with Applicable Laws, and to be consistent with the purposes of the Plan. The amount of Tax Obligations will be deemed to include any amount that the Administrator agrees may be withheld at the time the election is made.

(c) Compliance with Section 409A. Each payment or benefit under this Plan and under each Award Agreement is intended to constitute a separate payment for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations. The Plan, each Award and each Award Agreement under the Plan is intended to be exempt from or otherwise meet the requirements of Section 409A and will be construed and interpreted, including but not limited with respect to ambiguities and/or ambiguous terms, in accordance with such intent, except as otherwise specifically determined in the sole discretion of the Administrator.

7. Adjustments; Dissolution or Liquidation; Merger or Change in Control .

(a) Changes in Capitalization. Subject to any required action by the stockholders of the Company, the number of shares of Common Stock covered by each outstanding Award, and the number of shares of Common Stock which have been authorized for issuance under the Plan but as to which no Awards have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Award shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of issued shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an Award. Except as otherwise expressly provided herein or pursuant to an Award Agreement, no adjustment of any Award shall be made for cash dividends or other rights for which the record date occurs prior to the date issuance of any Shares subject to such Award.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Administrator shall notify each Participant as soon as practicable prior to the effective date of such proposed transaction. In addition, the Administrator may provide that any Company forfeiture rights applicable to any Award shall lapse 100%, and that any Award vesting shall accelerate 100%, provided the proposed dissolution or liquidation takes place at the time and in the manner contemplated. To the extent it has not been previously vested, an Award will terminate immediately prior to the consummation of such proposed action.

(c) Change in Control. In the event of a merger of the Company with or into another corporation or entity or a Change in Control, each outstanding Award shall be assumed or an equivalent Award substituted by the successor corporation or a Parent or Subsidiary of the successor corporation. In the event that the successor corporation (or a Parent or Subsidiary of the successor corporation) refuses to assume or substitute for the Awards, the Participant shall fully vest (or shall vest at such other

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level(s) as provided in an Award Agreement with respect to Awards that are assumed or substituted (whether or not actually assumed or substituted)) in such Awards which would not otherwise be vested. For the avoidance of doubt, for purposes of this paragraph, except as otherwise contemplated in an Award Agreement, an Award shall be considered assumed if, following the merger or Change in Control, the assumed Award confers the right to receive, for each Share subject to the Award immediately prior to the transaction, common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of the Company's common stock in the merger or Change in Control.

8. No Effect on Employment or Service. Neither the Plan nor any Award will confer upon a Participant any right with respect to continuing the Participant's relationship as a Service Provider, nor will they interfere in any way with the Participant's right or the employing entity's right to terminate such relationship at any time, with or without cause. A Participant's rights, if any, in respect of or in connection with any Award are derived solely from the discretionary decision of the Company to permit the Participant to participate in the Plan and to benefit from a discretionary Award. By accepting an Award hereunder, a Participant expressly acknowledges and agrees that there is no obligation on the part of the Company to continue the Plan and/or grant any additional Awards. Any Award granted hereunder is not intended to be compensation of a continuing or recurring nature, or part of a Participant's normal or expected compensation, and in no way represents any portion of a Participant's salary, compensation, or other remuneration for purposes of pension, benefits, severance, redundancy, resignation or any other purpose. For greater certainty, except as expressly required by applicable employment standards legislation, a period of notice, if any, or payment in lieu thereof, upon termination of employment, wrongful or otherwise, shall not be considered as extending the period of employment for the purposes of the Plan. A Participant shall have no right to any compensation or damages in consequence of the Participant's termination of employment (whether lawfully or unlawfully) or otherwise for any reason whatsoever insofar as any such right arises or may arise from the Participant ceasing to have rights or be entitled to receive any Shares in respect of Restricted Stock Units under the Plan.

9. Time of Granting Awards. The date of grant of an Award shall, for all purposes, be the date on which the Administrator makes the determination granting such Award (or such later grant effective date authorized by the Administrator). Notice of the determination shall be given to each Service Provider to whom an Award is so granted within a reasonable time after the date of such grant.

10. Term of Plan. Unless sooner terminated under Section 11, the Plan will continue in effect until the tenth (10<sup>th</sup>) year anniversary of the date that the Plan was approved by the Board.

11. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Board may at any time amend, alter, suspend or terminate the Plan.

(b) Stockholder Approval. The Plan will be subject to approval by the stockholders of the Company within twelve (12) months of its adoption by the Board. In addition, any subsequent amendment to the Plan for which stockholder approval is required by Applicable Laws shall require stockholder approval. Such stockholder approval will be obtained in the manner and to the degree required under Applicable Laws.

(c) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan shall impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing and signed by the Participant and the Company.

12. Conditions Upon Issuance of Shares.

(a) Legal Compliance. The granting of Awards and the issuance and delivery of Shares under the Plan shall be subject to all Applicable Laws, and to such approvals by any governmental agencies or national securities exchanges as may be required. Subject to compliance with, or exception from Code Section 409A, Shares will not be issued pursuant to the exercise or vesting of an Award unless the exercise or vesting of such Award and the issuance and delivery of such Shares will comply with Applicable Laws and may be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the payout of an Award, the person receiving the Shares upon vesting, to render to the Company a written statement containing such representations and warranties as, in the opinion of counsel for the Company, may be required to ensure compliance with any of the aforementioned relevant provisions of law, including a representation that the Shares are being acquired only for investment and without any present intention to sell or distribute such Shares, if, in the opinion of counsel for the Company, such a representation is required.

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13. Reservation of Shares. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan. Inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

14. Miscellaneous.

(a) Severability. If a court of competent jurisdiction holds any provision invalid and unenforceable, the remaining provisions of the Plan shall continue in effect.

(b) Construction. Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

(c) Clawback. An Award granted under the Plan will be subject to any provisions of Applicable Laws providing for the recoupment or clawback of incentive compensation (or any Company policy adopted to comply with Applicable Laws); the terms of any Company recoupment, clawback or similar policy in effect; and any recoupment, clawback or similar provisions that may be included in the applicable Award Agreement.

(d) Fractional Shares. The Company shall not be required to issue fractional shares upon the exercise or settlement of any Award.

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**HTBASE CORPORATION**

**2018 EQUITY INCENTIVE PLAN**

**NOTICE OF GRANT OF RESTRICTED STOCK UNITS**

Unless otherwise defined herein, the terms defined in the HTBase Corporation 2018 Equity Incentive Plan (the "Plan") shall have the same defined meanings in this Notice of Grant of Restricted Stock Units (the "Notice of Grant"), the Restricted Stock Unit Award Agreement set forth in Exhibit A and any other exhibits to these documents (collectively, this "Agreement").

Name ("Participant"): \_\_\_\_\_

Date of Grant: \_\_\_\_\_

This award of Restricted Stock Units (the "Award") will be effective as and when it is approved by the Company's Board.

The Award is subject to the terms and conditions of the Plan and this Agreement, as follows:

Number of Restricted Stock Units: \_\_\_\_\_

For the avoidance of any doubt, the number of RSUs subject to the Award will be adjusted pursuant to the exchange ratio set forth in that certain Share Purchase Agreement that the Company and its vendors intend to enter into with 1187474 B.C. Unlimited Liability Company (the "Purchaser") (such agreement, the "Purchase Agreement").

Each such Restricted Stock Unit is equivalent to one share of Common Stock of the Company (a "Share") for purposes of determining the number of Shares subject to this Award; provided that any fractional share may be paid in cash. None of the Restricted Stock Units will be issued (nor will you have the rights of a stockholder with respect to the underlying Shares) until the vesting conditions described below are satisfied.

This Award vests as to 34% of the Shares on the first anniversary of the Closing Date (as defined in the Purchase Agreement) and 33% of the Shares on each of the second and third anniversaries of the Closing Date, subject to Participant remaining a Service Provider through each applicable vesting date and subject to the closing of the transactions contemplated by the Purchase Agreement (such transactions, the "Transactions").

Participant acknowledges and agrees that notwithstanding any agreement Participant and any member of the Company Group may have in place to the contrary, the Transactions (including, without limitation, the consummation of the Closing (as defined in the Purchase Agreement)) shall not result in, and Participant hereby expressly waives and disclaims any rights to, (i) the pay-out of any of Participant's Restricted Stock Units (including, without limitation, any Restricted Stock Units granted pursuant to the Award) or the pay-out of any Juniper Networks, Inc.'s restricted stock units exchanged for the Company's Restricted Stock Units in connection with the Transactions and/or (ii) the acceleration of the vesting of any of Participant's Restricted Stock Units (including, without limitation, any Restricted Stock Units granted pursuant to the Award) or the acceleration of the vesting of any Juniper Networks, Inc.'s restricted stock units exchanged for the Company's Restricted Stock Units in connection with the Transactions.

For purposes of this Agreement, "Service Provider" means an employee or consultant of the Company or an Affiliate of the Company, and any entity that, from time to time and at the time of any determination, directly or indirectly, is in control of, is controlled by or is under common control with the Company (the "Company Group"). Participant will not cease to be a Service Provider in the case of (i) transfers between locations of the Company or other members of the Company Group, or (ii) a change in status from employee to consultant or vice versa.

Participant hereby waives and releases to the maximum extent permitted by applicable law any and all claims or causes of action, whether or not now known, against the Company and the Purchaser and/or their respective predecessors, successors, past or present subsidiaries, affiliated companies, investors, branches or related entities (collectively, including the Company and the Purchaser, the "Entities") and/or the Entities' respective past or present insurers, officers, members, managers, partners, employees, stockholders, directors, consultants, agents, attorneys, employee benefit plans or assigns (collectively with the Entities, the "Released Parties"), with respect to any matter, including, without limitation, any matter based upon or arising out of the arrangement between Participant and the Company and/or any of its subsidiaries, to pay or award any compensation to Participant

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(including, without limitation, the grant or award of options or any other equity interests in the Company to Participant) pursuant to any offer letters, employment agreements, oral promises or otherwise, the Purchase Agreement, the Transactions and Participant's employment with the Company or any of its subsidiaries (the "Release"). Participant agrees not to sue or bring any other claim or action against any of the Released Parties for any of the claims subject to or otherwise described in the Release, agrees not to participate in any class, collective, representative, or group action that may include any of the claims subject to or described in the Release, and will affirmatively opt out of any such class, collective, representative or group action. Participant acknowledges that Participant has read Section 1542 of the Civil Code of the State of California that provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

Participant waives any right or benefit that Participant has or may have under Section 1542 of the Civil Code of the State of California, any similar law of any other jurisdiction, or any common law principles of similar effect, to the full extent that Participant may lawfully waive all such rights and benefits pertaining to the subject matter of the Release. Participant understands and agrees that claims or facts in addition to or different from those which are now known or believed by Participant to exist may hereafter be discovered, but it is Participant's intention to release all claims that he or she has or may have against the Released Parties, whether known or unknown, suspected or unsuspected. For the avoidance of doubt, notwithstanding the Release, Participant does not waive or release any rights Participant may have for violations of any foreign, federal, state or local statutory and/or public policy right or entitlement that, by applicable law, cannot be waived.

Participant acknowledges and agrees that this Agreement and the vesting schedule for this Award does not constitute an express or implied promise of continued employment or engagement as a Service Provider for the vesting period, for any period, or at all, and shall not interfere with Participant's right or the Company's or, if different, Participant's employer's right to terminate your relationship as a Service Provider at any time, with or without cause.

By Participant's acknowledgement and written signature below or Participant's electronic acceptance of the terms of this Agreement, Participant agrees that this Agreement and the Plan constitute Participant's entire agreement with respect to this Award and may not be modified adversely to Participant's interest except by means of a writing agreed by the Company and Participant. Should Participant electronically accept this Agreement, Participant agrees to the following: "This electronic contract contains my electronic signature, which I have executed with the intent to sign this Agreement."

PARTICIPANT

Signature:

\_\_\_\_\_  
\_\_\_\_\_

COMPANY

Signature:

\_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_

**Exhibit A**

**RESTRICTED STOCK UNIT AWARD AGREEMENT**

1. **Grant**. The Company hereby grants to Participant an award of Restricted Stock Units (“RSUs”), as set forth in the Notice of Grant, subject to all of the terms and conditions in this Agreement and the Plan, which is incorporated by reference.

2. **Company’s Obligation to Pay**. Each RSU represents the right to receive a newly issued Share on the vesting date. Unless and until the RSUs vest in the manner set forth in Sections 3 or 4, Participant will have no right to payment with respect to such RSUs. Prior to actual distribution of Shares pursuant to any vested RSUs, such RSUs will represent an unfunded and unsecured obligation of the Company, payable (if at all) only from the general assets of the Company. Any RSUs that vest in accordance with Sections 3 or 4 will be paid to Participant (or in the event of Participant’s death, to his or her estate) in whole Shares, subject to Participant satisfying any obligations for Tax-Related Items (as defined in Section 7). Subject to the provisions of Sections 4 and 8, vested RSUs will be paid as soon as practicable after vesting, but in each such case within the period 60 days following the vesting date. In no event will Participant be permitted, directly or indirectly, to specify the taxable year of the payment of any RSUs payable under this Agreement.

3. **Vesting Schedule**. Subject to Section 4 and to any other relevant Plan provisions, the RSUs awarded by this Agreement will vest in Participant according to the vesting schedule specified in the Notice of Grant. For the avoidance of any doubt and notwithstanding anything to the contrary, in no event will Participant receive a direct or indirect vesting acceleration benefit, nor shall the vesting of RSUs granted hereunder accelerate, as a result of or in connection with the Transactions.

4. **Administrator Discretion**. The Administrator, in its discretion, may accelerate the vesting of any portion of the RSUs at any time, subject to the terms of the Plan. In that case, the RSUs will be vested as of the date and to the extent specified by the Administrator and will be paid as provided in Section 2 above. The payment of Shares vesting pursuant to this Section 4 will be paid at a time or in a manner that is exempt from, or complies with, Code Section 409A.

5. **Forfeiture**. Any RSUs that fail to vest (including, without limitation, due to Participant’s termination as a Service Provider) will immediately revert to the Plan following the earlier of (a) Participant’s termination as a Service Provider or (b) the last possible date for vesting as set forth in the Notice of Grant of Restricted Stock Units.

6. **Payments after Death**. Any distribution or delivery to be made to Participant under this Agreement will, if Participant is then deceased, be made to the administrator or executor of Participant’s estate. Any such administrator or executor must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

7. **Tax Obligations**.

(a) **Tax Withholding**.

(i) No Shares issuable on a vesting date will be issued to Participant until satisfactory arrangements (as determined by the Administrator) have been made by Participant for the payment of income, employment, social insurance, National Insurance Contributions, payroll tax, fringe benefit tax, payment on account or other tax-related items related to Participant’s participation in the Plan and legally applicable to Participant, including, without limitation, in connection with the grant, vesting and settlement of the RSU, the subsequent sale of Shares acquired under the Plan and/or the receipt of any dividends on such Shares (“Tax-Related Items”) that the Administrator determines must be withheld. If Participant is a non-U.S. employee, the method of payment of Tax-Related Items may be restricted by the Appendix.

(ii) The Company has the right (but not the obligation) to satisfy any Tax-Related Items by (A) withholding from proceeds of the sale of Shares acquired upon the settlement of the RSU through a sale arranged by the Company (on Participant’s behalf pursuant to this authorization without further consent), (B) requiring Participant to pay cash, or (C) reducing the number of Shares otherwise deliverable to Participant; provided that if the Company permits Participant to pay cash to satisfy Tax-Related Items and Participant elects to satisfy Tax-Related Items through the payment of cash and fails to deliver cash on the vesting date, the Company has the right (but not the obligation) to satisfy such Tax-Related Items by withholding from proceeds of the sale of Shares acquired upon the settlement of the RSU through a sale arranged by the Company (on Participant’s behalf pursuant to this authorization without further consent). The Administrator will have discretion to determine the method of satisfying Tax-Related Items.

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(iii) Depending on the withholding method, the Company may withhold or account for Tax-Related Items by considering applicable minimum statutory withholding rates or other applicable withholding rates, including maximum applicable rates, in which case Participant will receive a refund of any over-withheld amount in cash and will have no entitlement to the Common Stock equivalent. If the obligation for Tax-Related Items is satisfied by reducing the number of Shares otherwise deliverable to Participant, for tax purposes, Participant is deemed to have been issued the full number of Shares subject to the vested RSUs, notwithstanding that a number of the Shares are held back solely for the purpose of paying the Tax-Related Items.

(iv) If Participant is subject to taxation in more than one jurisdiction, the Company and/or, if different, Participant's employer (the "Employer") or former Employer may withhold or account for tax in more than one jurisdiction.

(v) Regardless of any action of the Company or the Employer, Participant acknowledges that the ultimate liability for all Tax-Related Items is and remains Participant's responsibility and may exceed the amount actually withheld by the Company or the Employer. Participant further acknowledges that the Company and the Employer (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the RSUs; and (2) do not commit to and are under no obligation to structure the terms of the grant or any aspect of the RSUs to reduce or eliminate Participant's liability for Tax-Related Items or achieve any particular tax result.

(b) Code Section 409A. This Section 7(b) may not apply if Participant is not a U.S. taxpayer.

(i) If the vesting of any portion of the RSUs is accelerated in connection with Participant's termination of status as a Service Provider (provided that such termination is a "separation from service" within the meaning of Code Section 409A) and if (x) Participant is a "specified employee" within the meaning of Code Section 409A at the time of such termination as a Service Provider and (y) the payment of such accelerated RSUs will result in the imposition of additional tax under Code Section 409A if paid to Participant on or within the 6-month period following Participant's termination as a Service Provider, then the payment of such accelerated RSUs will not be made until the first day after the end of the 6-month period.

(ii) If the termination as a Service Provider is due to death, the delay under Section 7(b)(i) will not apply. If Participant dies following his or her termination as a Service Provider, the delay under Section 7(b)(i) will be disregarded and the RSUs will be paid in Shares to Participant's estate as soon as practicable following his or her death.

(iii) All payments and benefits under this Restricted Stock Unit Award Agreement are intended to be exempt from, or comply with, the requirements of Code Section 409A so that none of the RSUs or Shares issuable upon the vesting of RSUs will be subject to the additional tax imposed under Code Section 409A and the Company and Participant intend that any ambiguities be interpreted so that the RSUs are exempt from or comply with Code Section 409A.

(iv) Each payment under this Agreement is intended to be a separate payment as described in Treasury Regulations Section 1.409A-2(b)(2).

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until Shares have been issued and recorded on the records of the Company or its transfer agents or registrars.

9. Acknowledgements and Agreements. Participant's acceptance of this Agreement indicates that:

(a) PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THESE RSUS IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AND THAT BEING HIRED, AND GRANTED THESE RSUS WILL NOT RESULT IN VESTING.

(b) PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THESE RSUS AND THIS AGREEMENT DO NOT CREATE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY OR, IF DIFFERENT, THE EMPLOYER (OR ENTITY TO WHICH HE OR SHE IS PROVIDING SERVICES) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

(c) Participant agrees that this Agreement and its incorporated documents reflect all agreements on its subject matters and that he or she is not accepting this Agreement based on any promises, representations, or inducements other than those reflected in this Agreement.

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(d) Participant agrees that delivery of any documents related to the Plan or Awards under the Plan, including the Plan, this Agreement, the Plan's prospectus and any reports of the Company provided generally to the Company's stockholders, may be made by electronic delivery. Such means of electronic delivery may include but do not necessarily include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the Plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company. Participant acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to Participant by contacting the Company in writing in accordance with Section 12. Participant further acknowledges that Participant will be provided with a paper copy of any documents if the attempted electronic delivery of such documents fails. Similarly, Participant understands that Participant must provide the Company or any designated third party administrator with a paper copy of any documents if the attempted electronic delivery of such documents fails. Participant may revoke his or her consent to the electronic delivery of documents or may change the electronic mail address to which such documents are to be delivered (if Participant has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address in accordance with Section 12. Finally, Participant understands that he or she is not required to consent to electronic delivery of documents.

(e) Participant accepts that all good faith decisions or interpretations of the Administrator regarding the Plan and Awards under the Plan are binding, conclusive and final.

(f) Participant agrees that the Plan is established voluntarily by the Company, it is discretionary in nature, and may be amended, suspended or terminated by the Company at any time, to the extent permitted by the Plan.

(g) Participant agrees that the grant of RSUs is voluntary and occasional and does not create any contractual or other right to receive future grants of RSUs, or benefits in lieu of RSUs, even if RSUs have been granted in the past.

(h) Participant agrees that all decisions regarding future Awards, if any, will be at the sole discretion of the Company.

(i) Participant agrees that he or she is voluntarily participating in the Plan.

(j) Participant agrees that the RSUs and any Shares acquired under the Plan are not intended to replace any pension rights or compensation.

(k) Participant agrees that the RSUs and Shares acquired under the Plan and the income and value of same, are not part of normal or expected compensation for any purpose, including for purposes of calculating any severance, resignation, termination, redundancy, dismissal, end-of-service payments, bonuses, holiday pay, long-service awards, pension or retirement or welfare benefits or similar payments.

(l) Participant agrees that unless otherwise agreed with the Company, the RSUs and the Shares subject to the RSUs, and the income and value of same, are not granted as consideration for, or in connection with, the service Participant may provide as a director of a Parent or Subsidiary;

(m) Participant agrees that the future value of the Shares underlying the RSUs is unknown, indeterminable, and cannot be predicted with certainty;

(n) Participant agrees that, for purposes of the RSUs, Participant's engagement as a Service Provider will be considered terminated as of the date Participant ceases to actively provide services to the Company or any member of the Company Group (regardless of the reason for such termination and whether or not the termination is later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's engagement agreement, if any).

(o) Participant agrees that any right to vest in the RSUs under the Plan, if any, will terminate as of the date described in the previous paragraph and will not be extended by any notice period (e.g., Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws (including common law, if applicable) in the jurisdiction where Participant is a Service Provider or under Participant's engagement agreement or employment agreement, if any, unless Participant is providing bona fide services during such time).

(p) Participant agrees that the Administrator has the exclusive discretion to determine when Participant is no longer actively providing services for purposes of his or her RSUs (including whether Participant may still be considered to be providing services while on a leave of absence).

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(q) Participant agrees that none of the Company, the Employer, or any Parent or Subsidiary will be liable for any foreign exchange rate fluctuation between Participant's local currency and the United States Dollar that may affect the value of the RSUs or of any amounts due to Participant pursuant to the settlement of the RSUs or the subsequent sale of any Shares acquired upon settlement.

(r) Participant has read and agrees to the data privacy provisions of Section 11 of this Agreement.

(s) Participant agrees that no claim or entitlement to compensation or damages shall arise from forfeiture of the RSUs resulting from the termination of Participant's status as a Service Provider (for any reason whatsoever whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's service agreement, if any), and in consideration of the grant of the RSUs to which Participant is otherwise not entitled, Participant irrevocably agrees never to institute any claim against the Company or any member of the Company Group, waives his or her ability, if any, to bring any such claim, and releases the Company and all members of the Company Group from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, Participant shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim.

10. No Advice Regarding Grant. Neither the Company nor any member of the Company Group is providing any tax, legal or financial advice, and neither the Company nor any member of the Company Group is making any recommendations regarding Participant's participation in the Plan, or Participant's acquisition or sale of the underlying Shares. Participant is hereby advised to consult with his or her own personal tax, legal and financial advisors regarding his or her participation in the Plan before taking any action related to the Plan. Nothing stated in this Agreement or the Plan is intended or written to be used, and cannot be used, for the purpose of avoiding taxpayer or other penalties.

11. Data Privacy.

(a) *Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's personal data as described in this Agreement and any other Award materials by and among, as applicable, the Employer, the Company and any member of the Company Group for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan.*

(b) *Participant understands that the Company, the Employer and members of the Company Group may hold certain personal information about Participant, including, but not limited to, Participant's name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, residency, status, job title, any shares of stock or directorships held in the Company or the Company Group, details of all restricted stock units or any other entitlement to stock awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor (collectively "Data"), for the exclusive purpose of implementing, administering and managing the Plan.*

(c) *Participant understands that Data will be transferred to the Company, any member of the Company Group, or one or more stock plan service providers as may be selected by the Company from time to time, which is assisting the Company with the implementation, administration and management of the Plan. Participant understands that the recipients of the Data may be located in the United States or elsewhere, and that the recipient's country of operation (e.g., the United States) may have different data privacy laws and protections than Participant's country. Participant understands that if he or she resides outside the United States, he or she may request a list with the names and addresses of any potential recipients of the Data by contacting his or her local human resources representative. Participant authorizes the Company and any other possible recipients which may assist the Company (presently or in the future) with implementing, administering and managing the Plan to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purposes of implementing, administering and managing Participant's participation in the Plan. Participant understands that Data will be held only as long as is necessary to implement, administer and manage Participant's participation in the Plan. Participant understands that if he or she resides outside the United States, he or she may, at any time, view Data, request additional information about the storage and processing of Data, require any necessary amendments to Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing his or her local human resources representative. Further, Participant understands that he or she is providing the consents herein on a purely voluntary basis. If Participant does not consent, or if Participant later seeks to revoke his or her consent, his or her engagement as a Service Provider and career with the Employer will not be adversely affected; the only consequence of refusing or withdrawing Participant's consent is that the Company would not be able to grant Participant restricted stock units or other equity awards or administer or maintain such awards. Therefore, Participant understands that refusing or withdrawing his or her consent may affect Participant's ability to participate in the Plan. For more information on the consequences of Participant's refusal to consent or withdrawal of consent, Participant understands that he or she may contact his or her local human resources representative.*

12. Address for Notices. Any notice to be given under the terms of this Agreement will be addressed prior to the Closing Date in care of Attn: Chief Executive Officer, at HTBase Corporation, 4080 Confederation Parkway, Suite 304, Mississauga, Ontario L5B 0G1, and after the Closing Date in care of Attn: Stock Administration, at Juniper Networks, Inc., 1133 Innovation Way, Sunnyvale, California 94089; to Participant will be provided to the physical or electronic mail address maintained for Participant in the Company's records; or in either case, at such other address as the Company or the Participant, as the case may be, may hereafter designate in writing.

13. No Effect on Employment. Participant's employment with the Company or, if different, the Employer is not affected by this grant of RSUs. Accordingly, the terms of Participant's employment with the Company or, if different, the Employer will be determined from time to time by the Company or, if different, the Employer, and the Company or the Employer will have the right, which is hereby expressly reserved, to terminate or change the terms of the employment of Participant at any time for any reason whatsoever, with or without good cause or notice.

14. Grant is Not Transferable. Except to the limited extent provided in Section 7, this grant and the rights and privileges conferred hereby will not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

15. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

16. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration or qualification of the Shares upon any securities exchange or under any state or federal law, or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate), such issuance will not occur unless and until such listing,

registration, qualification, consent or approval will have been effected or obtained free of any conditions not acceptable to the Company. The Company will make all reasonable efforts to meet the requirements of any such state or federal law or securities exchange and to obtain any such consent or approval of any such governmental authority.

17. Plan Governs. This Agreement and the Notice of Grant are subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Agreement or the Notice of Grant and one or more provisions of the Plan, the provisions of the Plan will govern.

18. Administrator Authority. The Administrator will have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any RSUs have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Employee, the Company and all other interested persons. Neither the Administrator nor any member of the Company Group will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement.

19. [Reserved.]

20. Agreement Severable. In the event that any provision in this Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Agreement.

21. Modifications to this Agreement. The Plan and this Agreement constitute the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Agreement, the Company reserves the right to revise this Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Code Section 409A in connection to these RSUs, or to comply with other Applicable Laws.

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22. Notice of Governing Law; Venue. This grant of RSUs shall be governed by, and construed in accordance with, the laws of the State of California without regard to principles of conflict of laws. The parties further agree that any legal action, suit or proceeding arising from or related to this Agreement shall be instituted exclusively in the courts of California or the federal courts for the United States for the Northern District of California and no other courts. The parties consent to the personal jurisdiction of such courts over them, waive all objections to the contrary, and waive any and all objections to the exclusive location of legal proceedings in California or the federal courts for the United States for the Northern District of California (including, without limitation, any objection based on cost, convenience or location of relevant persons). The parties further agree that there shall be a conclusive presumption that this Agreement has a significant, material and reasonable relationship to the State of California.

23. Insider Trading/Market Abuse Laws. Participant acknowledges that, depending on his or her country, Participant may be subject to insider trading restrictions and/or market abuse laws, which may affect his or her ability to acquire or sell Shares or rights to Shares (e.g., RSUs) under the Plan during such times as Participant is considered to have “inside information” regarding the Company (as defined by the laws in Participant’s country). Any restrictions under these laws or regulations are separate from and in addition to any restrictions that may be imposed under any applicable Company insider trading policy. Participant is responsible for ensuring compliance with any applicable restrictions and is advised to consult his or her personal legal advisor on this matter.

24. Waiver. Participant acknowledges that a waiver by the Company of breach of any provision of this Agreement shall not operate or be construed as a waiver of any other provision of this Agreement, or of any subsequent breach by Participant or any other participant in the Plan.

[Remainder of Page Intentionally Blank]

MASTER SERVICES AGREEMENT

*Confidential Portions of this Exhibit marked as [\*\*\*] have been omitted pursuant to a request for confidential treatment and have been filed separately with the Securities and Exchange Commission.*

Confidential

Page 1 of 66

Juniper – IBM, MSA, dated 12-31-2018  
MA-IB-00136-2018

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TABLE OF CONTENTS

	Page
ARTICLE 1. DEFINITIONS AND INTERPRETATION.	1
1.1 Definitions	1
1.2 Interpretation	1
ARTICLE 2. TERM	1
2.1 Initial Term	1
2.2 SOW Term Extensions	2
ARTICLE 3. SERVICES	2
3.1 Statements of Work	2
3.2 Non-Exclusivity of Services	4
3.3 No Minimum Commitment	4
3.4 Projects	4
3.5 Changes to Customer Group	4
3.6 Governmental Approvals and Consents	5
3.7 Technology and Process Evolution	5
3.8 Knowledge Sharing	5
3.9 Reports	5
3.10 Customer Systems	6
3.11 Satisfaction Surveys	6
3.12 Responsibility for Resources	6
3.13 Work Reprioritization	6
3.14 Cooperation with Third Parties	7
3.15 Management of Third-Party Contracts	7
3.16 Customer Policies	9
3.17 Non-Compliance with Customer Policies	9
3.18 Process Interface Manual	9
3.19 Due Diligence	9
3.20 Excuse from Performance	10
3.21 Acceptance Testing	11
3.22 Deficiencies in Reviewable Items	11
3.23 Rejection Process	11
3.24 Final Acceptance	12
3.25 No Deemed Acceptance	12
ARTICLE 4. TRANSITION	12
4.1 Transition Plan	12

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
4.2 Transition Performance	13
ARTICLE 5. TRANSFORMATION	13
5.1 Transformation Plan	13
5.2 Transformation Performance	13
5.3 Transformation Timing	14
ARTICLE 6. HUMAN RESOURCES	14
ARTICLE 7. SERVICE LEVELS AND CREDITS	14
7.1 General	14
7.2 Reporting and Measurement Tools	14
7.3 Anticipated Default; Root-Cause Analysis	14
7.4 Performance Credits	15
7.5 Deliverable Credits	15
ARTICLE 8. SERVICE LOCATIONS	15
8.1 Service Locations	15
8.2 Physical Safety and Security Procedures	16
ARTICLE 9. PROVIDER STAFF	16
9.1 Key Personnel	16
9.2 Provider Staff Agreements	16
9.3 Provider Staff Removal	17
9.4 Background Check and Work Eligibility	17
9.5 Restricted Parties Compliance	17
9.6 Provider Agents	17
9.7 Services to Customer Competitors	18
9.8 Qualifications and Training of Provider Staff	18
9.9 Personnel Turnover Rate	19
ARTICLE 10. CONTINUED PROVISION OF SERVICES	19
10.1 Disaster Recovery Plan	19
10.2 Force Majeure	19
10.3 Alternate Source	20
10.4 No Payment for Unperformed Services	20
10.5 Allocation of Resources	20
10.6 Service Improvement Plan and Step-In	20
ARTICLE 11. CUSTOMER OPERATIONAL RESPONSIBILITIES	21
11.1 Customer Resources	21

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
11.2 Customer Operational Responsibilities	22
ARTICLE 12. FEES AND PAYMENT	22
12.1 General	22
12.2 Expenses	22
12.3 Disputed Fees and Right to Offset	22
12.4 Transition Fees	23
12.5 Extraordinary Events	23
12.6 Benchmarking Arrangement	23
ARTICLE 13. TAXES	25
13.1 Customer Tax Responsibility	25
13.2 Provider Tax Responsibility	25
13.3 Excluded Tax Responsibilities	25
13.4 Tax Cooperation	25
ARTICLE 14. AUDITS	25
14.1 Service Audits	25
14.2 Fees Audits	26
14.3 Audits Required by Governmental Authorities	26
14.4 Provider's Controls Audits	26
14.5 Record Retention	27
14.6 Facilities	27
14.7 Response	27
ARTICLE 15. RELATIONSHIP MANAGEMENT	28
15.1 Governance Guidelines and Principles	28
15.2 Appointments	28
15.3 Escalation Procedure for Relationship Issues	28
ARTICLE 16. INTELLECTUAL PROPERTY RIGHTS	28
16.1 Assigned Rights	28
16.2 Moral Rights	28
16.3 Maintenance of Records	29
16.4 Further Assurances	29
16.5 Customer Property	29
16.6 Provider Property	29
16.7 No Implied License	30
ARTICLE 17. CONFIDENTIALITY AND CUSTOMER DATA.	30

Confidential

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
17.1 Use and Disclosure	30
17.2 Required Disclosure	31
17.3 Security Incidents	31
17.4 Rights in Confidential Information	32
17.5 Return of Confidential Information	32
17.6 Third-Party Information	32
17.7 Other Rights	32
17.8 U.S. Defend Trade Secrets Act	32
17.9 Rights in Customer Data	32
17.10 Protection of Customer Data	33
17.11 Information and System Security	33
17.12 Return of Confidential Information and Customer Data	34
17.13 Notice of Adverse Impact	34
17.14 Internal Controls.	35
ARTICLE 18. REPRESENTATIONS AND WARRANTIES	36
18.1 Representations and Warranties by Customer	36
18.2 Representations and Warranties by Provider	37
18.3 DISCLAIMER	40
ARTICLE 19. TERMINATION	40
19.1 Termination for Convenience	40
19.2 Termination for Change in Control of Customer	40
19.3 Termination for Change in Control of Provider	40
19.4 Termination by Customer for Cause	41
19.5 Termination by Customer for Breach of Warranties by Provider	41
19.6 Service Level Termination Event	41
19.7 Termination by Provider for Cause	41
19.8 Termination for Failure to Transition	41
19.9 Termination for Failure to Transform	41
19.10 Other Terminations	42
19.11 Cumulative Rights	42
19.12 Termination Effectiveness	42
ARTICLE 20. TERMINATION ASSISTANCE	42
20.1 Termination Assistance Services	42
20.2 Exit Rights	43

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
20.3 Termination Assistance Upon Insourcing or Resourcing	44
ARTICLE 21. INDEMNITIES	44
21.1 Indemnities by Customer	44
21.2 Indemnities by Provider	45
21.3 Provider Obligations Upon Infringement/Misappropriation	45
21.4 Indemnification Procedures	46
ARTICLE 22. DAMAGES	46
22.1 Direct Damages Cap	46
22.2 Consequential Damages	47
22.3 Exceptions	47
22.4 Acknowledged Direct Damages	48
22.5 Data Breach Damages	49
22.6 Collective Caps	49
ARTICLE 23. INSURANCE	50
23.1 Insurance	50
23.2 Period of Insurance	50
23.3 Insurance Documentation	51
ARTICLE 24. COMPLIANCE WITH LAWS	51
24.1 Compliance	51
24.2 Changes in Law	51
24.3 Ethical Practices	52
24.4 Export Control	53
24.5 Regulatory Fines	54
ARTICLE 25. MISCELLANEOUS PROVISIONS	55
25.1 Assignment	55
25.2 Notices	55
25.3 Counterparts	55
25.4 Relationship	56
25.5 Consents, Approvals and Requests	56
25.6 Waivers	56
25.7 Remedies Cumulative	56
25.8 Amendments	56
25.9 Survival	56
25.10 Third-Party Beneficiaries	57

Confidential

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
25.11 Covenant of Further Assurances	57
25.12 Conflict of Interest	57
25.13 Publicity, Branding and Co-Branding	57
25.14 Equitable Relief	57
ARTICLE 26. CONSTRUCTION	57
26.1 Severability	57
26.2 Sole and Exclusive Venue	57
26.3 Section 365(n)	58
26.4 Governing Law	58
26.5 Continued Performance	58
26.6 Duly Authorized	58
26.7 Entire Agreement	58

Confidential

Page 6 of 66

## MASTER SERVICES AGREEMENT

This Master Services Agreement is between **Juniper Networks, Inc.**, a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and **International Business Machines Corporation**, a New York corporation with a principal place of business at One New Orchard Road, Armonk, New York 10504 (“**Provider**”).

Provider is in the business of providing outsourcing, professional and other related services to customers. Customer Group desires to obtain certain outsourcing, professional and other related services from Provider, and Provider desires to provide such services to Customer Group, such Services as described in the Statements of Work to be entered into from time to time by Customer Group and Provider pursuant to the terms and conditions of this MSA. Customer and Provider desire to set forth in this MSA the general terms and conditions pursuant to which Provider will provide such services to Customer and all other members of Customer Group under the applicable Statements of Work.

Therefore, Customer and Provider (each a “**Party**” and together the “**Parties**”) agree as follows:

### ARTICLE 1. DEFINITIONS AND INTERPRETATION .

**1.1 Definitions** . Capitalized terms used in the Agreement have the meanings set forth in **Schedule 1** (Definitions) or **Schedule 3** (Cross-Functional Terms) unless otherwise defined in the context of the provision.

**1.2 Interpretation** . In the Agreement, unless otherwise specified, (A) headings are for ease of reference only and will not be taken into account in construing or interpreting the Agreement; (B) references to any recital, Section, Exhibit, Schedule, or paragraph are to those contained in the Agreement; (C) all Exhibits and Schedules to the Agreement are an integral part of the Agreement and are incorporated in the Agreement by such reference; (D) the use of the term “including,” means “including without limitation,” “include without limitation” or “includes without limitation.” Similarly, the term “for example” and the abbreviation “*e.g.*” mean “as one example and without limitation of other examples”; (E) the singular includes the plural and vice versa and any gender includes either gender; (F) all references to time refer to the local prevailing time in Sunnyvale, California; (G) all references to “dollars” or “\$” will mean United States Dollars, unless otherwise indicated; (H) reference to any statute, law, regulation, rule, delegated legislation, or order is to any statute, law, regulation, rule, delegated legislation, or order as amended, modified, or replaced from time to time and to any statute, law, regulation, rule, delegated legislation, or order replacing or made under any of them; (I) the expression “this Section” or “this section” will, unless followed by reference to a specific provision, be deemed to refer to the whole clause (not merely the sub-clause, paragraph, or other provision) in which the expression occurs; and (J) “in writing” includes any communication made by letter, facsimile, or email, in accordance with **Section 25.2** (Notices), below.

### ARTICLE 2. TERM .

**2.1 Initial Term** . The term of this MSA commences on December 31, 2018 (the “**Effective Date**”) and will continue until the termination or expiration of the last remaining Statement of Work under this MSA unless earlier terminated or extended in accordance with its terms. Each Statement of Work executed between the Parties will specify its effective date and expiration date, unless earlier terminated in accordance with the terms of this MSA or extended in accordance with **Section 2.2** (SOW Term Extensions). If the expiration date for a specified Statement of Work occurs after the expiration or termination of this MSA, then this MSA will remain effective solely for the provision of Services under such Statement of Work, until the expiration or termination of such Statement of Work.

**2.2 SOW Term Extensions** . Customer may extend each Statement of Work for up to one (1) extension period or such other extension periods as agreed upon in an applicable Statement of Work (each, a “**SOW Term Extension**”), each of up to twelve (12) months, on the same terms and conditions (including no increase in Fees) by giving Provider notice of such extension and of the length thereof at least ninety (90) days before the end of the term of such Statement of Work or any SOW Term Extension under this **Section 2.2** (SOW Term Extensions).

### ARTICLE 3. SERVICES .

#### 3.1 Statements of Work .

(A) Provider will provide the Services to, and perform the Services for, Customer Group, for use by Customer Group and its Authorized Users in accordance with this MSA and one or more Statements of Work. Provider’s timely performance of the Services under an applicable Statement of Work is of the utmost importance to Customer. Provider’s failure to meet applicable Service Levels or the milestones or other deadlines set forth in an applicable Statement of Work according to the terms of the Agreement or the applicable Statement of Work will be a breach of Provider’s obligations under the Agreement.

(B) If Customer and/or Customer Group desires Provider to perform Services pursuant to this MSA, and Provider agrees to perform such Services, Customer and/or Customer Group and Provider will enter into one or more Statements of Work for such Services, each substantially in the form included in **Schedule 2** (Form of Statement of Work) (each, a “**Statement of Work**” or “**SOW**”).

(C) In the event that a particular Statement of Work contemplates the delivery of Services to entities in geographies outside the United States, the Parties will enter into, or cause each of their respective Affiliates to enter into, one or more local country agreements for the purpose of memorializing the

implementation of this MSA and the applicable Statement of Work (each, a “ **Local Services Agreement** ”) at the country level. All Services will be provided by Provider or the applicable Affiliate of Provider pursuant to this MSA or an executed Local Services Agreement. Unless and to the extent an individual Local Services Agreement expressly provides otherwise, each Local Services Agreement will incorporate by reference the terms and conditions of this MSA and will not be construed as altering or superseding the rights and obligations of the Parties under this MSA. The term of each Local Services Agreement will commence on the Effective Date of the applicable Local Services Agreement and will continue until the last day of the term of the applicable SOWs, unless earlier terminated or extended in accordance with the terms of this MSA or such Local Services Agreement.

(D) From time to time during the Term, Customer and/or Customer Group may wish to obtain Services that are not then covered by an existing Statement of Work and that are materially different from or materially in addition to the Services (“ **New Services** ”). For the avoidance of doubt, additional volumes of Services for which there is a charging mechanism specified in the applicable SOW are not considered New Services. In the case of New Services, Customer has no obligation to provide Provider with a first right of refusal to provide New Services to Customer Group. Customer may, in its sole discretion, elect to have Provider bid to provide New Services to Customer Group. If Customer so elects, Customer will provide Provider with a general description of the New Services to be provided, the business requirements, or the desired outcome. Provider will promptly, and at no charge to Customer, prepare a proposal to Customer setting forth the Statement of Work terms and conditions on which it would provide such New Services and will deliver to Customer a proposed Statement of Work in the form set forth in **Schedule 2**

Confidential

Page 1 of 66



(Form of Statement of Work) or a proposed amendment to the applicable Statement of Work. The proposed Fees for New Services will consider the resources and expenses of Provider for Services that would no longer be required if Provider performed New Services. Customer will review Provider's proposal and may request Changes. If Customer in its sole discretion decides to proceed with Provider providing the New Services, the Parties will negotiate in good faith and consistent with any existing Statement of Work regarding any such requested Changes and work to promptly finalize the Statement of Work for the New Services. Customer will not be obligated to pay for any New Services prior to the finalization of a Statement of Work unless expressly stated in the Statement of Work.

(E) In addition to the services, functions, responsibilities, and tasks expressly described in the scope of services or other detailed description of the Services under a Statement of Work, the following are deemed to be included in the Services as if expressly described in the Agreement:

(1) All services, functions, responsibilities, and tasks that are an inherent part of, or a necessary sub-part included within, or that are reasonably required for or incidental to the proper and complete performance and provision of the expressly described Services;

(2) communication and coordination of efforts by and among Provider Staff as required to perform such services, functions, responsibilities, and tasks pursuant to a Statement of Work;

(3) in the case of a Statement of Work involving the transfer of Affected Employees, the services, functions, responsibilities, and tasks that were performed by the Affected Employees on a consistent or routine basis during the twelve (12) months preceding the SOW Effective Date;

(4) all services, functions, tasks or responsibilities necessary for Provider to comply with Customer Policies, as described in **Section 3.16** (Customer Policies) below; and

(5) all services, functions, tasks or responsibilities necessary for Provider to comply with the cross-functional service terms, as described in **Schedule 3** (Cross-Functional Service Terms).

(F) Provider will provide the Services to Customer Group designated by Customer and provide such Services at least at the industry standards practiced generally by top tier well managed service providers providing similar services in similar circumstances, but in no case less than the standard performed by Affected Employees during the twelve (12) months preceding the applicable SOW Effective Date.

(G) Each Statement of Work must be signed by an Authorized Representative of each Party. Provider acknowledges and agrees that no Statement of Work will be effective unless and until signed by Authorized Representatives of both Parties. All Statements of Work incorporate by reference and are subject to, the terms and conditions of this MSA. Once executed by both Parties, the new Statement of Work will be effective as of the effective date specified in the Statement of Work and become a part of and be a Schedule to this MSA, and the Services thereunder will form part of the Services governed by the Agreement. The Statements of Work will be serially numbered ( *i.e.* , the first being Statement of Work No. 1, the second being Statement of Work No. 2, the third being Statement of Work No. 3, etc.) and include a brief substantive description in the title.

(H) This MSA together with each Statement of Work is to be interpreted as a single agreement so that all provisions are given as full effect as possible. In the event of a conflict between the terms of this MSA and a Statement of Work, this MSA will control, except to the extent the Parties expressly agree in such Statement of Work that the Statement of Work will control with respect to the specific provision of the MSA to be overridden. The order of precedence is as follows (items with a lower number having priority over, and controlling in the event of a conflict with, items having a higher number): (1) this MSA, (2) any Schedules or other attachments incorporated in this MSA other than Statements of Work, and (3) the Statements of Work including the Exhibits and other attachments thereto (but only with respect to Services to be performed under such Statement of Work).

**3.2 Non-Exclusivity of Services** . Customer retains the right to perform itself or retain Customer Agents and/or other third parties to perform any or a portion of the Services subject to and in accordance with the provisions of **Section 19.1** (Termination for Convenience). In the case of Customer's reduction of any Services under this **Section 3.2** (Non-Exclusivity of Services), the Fees for the remaining Services will be as set forth in a Statement of Work; or if not addressed in the Statement of Work, the Fees will be equitably adjusted to reflect those Services that are no longer required and in the case of a Partial Termination the provisions of **Section 19.1** (Termination for Convenience) will apply.

**3.3 No Minimum Commitment** . As of the Effective Date, Customer intends to use Provider to meet certain of its outsourcing needs during the Term. However, Customer does not make any minimum Fee or volume commitment under the Agreement unless otherwise provided in the Fees Exhibit to a Statement of Work. Nothing in the Agreement will be interpreted as a requirements contract or a "take-or-pay" contract. Furthermore, Provider does not receive any exclusive rights under the Agreement and nothing in the Agreement will be construed as requiring Customer or Customer Group to purchase services solely from Provider. Any and all Fees must be agreed to in writing by Customer and Provider in advance.

**3.4 Projects** . From time to time during the Term, Customer may engage Provider to perform a Project in accordance with the project engagement procedure set forth in **Schedule 5** (Governance). Provider will comply with **Schedule 5** (Governance) and perform each Project, complete all Project Milestones, and provide all Deliverables in accordance with the Project Documents.

**3.5 Changes to Customer Group** . If a change to all or part of Customer's business structure, by merger, acquisition, divestiture, or reorganization (" **Restructuring** ") results in an entity that was not previously an Affiliate of Customer becoming part of Customer Group (" **Acquired Entity** "), then Customer

may require Provider to provide the Services to the Acquired Entity under the Agreement. If a Restructuring results in a business that was previously Controlled by Customer or one of its Affiliates no longer being Controlled by Customer or one of its Affiliates (“ **Divested**

Confidential

Page 2 of 66

Juniper – IBM, MSA, dated 12-31-2018  
MA-IB-00136-2018

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**Entities**” and, together with Acquired Entities, “ **New Entities** ”), then Customer may require Provider to provide the Services to the Divested Entity under the terms of the Agreement for a period of up to [\*\*\*]. If Customer notifies Provider that it is considering or intends to engage in a Restructuring, Provider will, at no additional cost to Customer, provide reasonable assistance, information, and advice to assist Customer in evaluating the time and expense and any associated risks of providing Services to an Acquired Entity or continuing or terminating Services to a Divested Entity.

**3.6 Governmental Approvals and Consents** . At its own expense, Provider will (A) obtain and maintain all Governmental Approvals required for Provider and all Provider Agents to provide the Services; (B) obtain, maintain, and comply with all of the Provider Consents; and (C) comply with the Customer Consents. With Provider providing assistance as requested by Customer, Customer will obtain, maintain and comply with the Customer Consents. As requested by the other Party, each Party will cooperate with the other Party in the other Party’s obtainment of the Governmental Approvals and the Consents that such other Party is required to obtain pursuant to this **Section 3.6** (Governmental Approvals and Consents). If Customer is unable to satisfy its obligation to obtain a Customer Consent, the Parties will discuss and agree upon commercially reasonable alternative approaches as are necessary and sufficient to provide the Services without such Customer Consent, and such alternative approaches will be documented pursuant to the Change Control Procedures.

**3.7 Technology and Process Evolution** . In providing the Services to Customer and/or Customer Group, Provider will, at no additional cost to Customer and/or Customer Group, (A) use commercially reasonable efforts to continually improve its technology and processes to allow Customer and/or Customer Group to take advantage of technological and process advances related to the Services, (B) regularly provide for Customer’s evaluation any technology developments that could reasonably be expected to have a positive impact on the Services that Provider uses or intends to use for any of its other clients for similar services, and (C) leverage its leading available technology and processes as appropriate for a given service when providing Services of that type for Customer and/or Customer Group as described in the applicable Statement of Work.

**3.8 Knowledge Sharing** .

(A) At least once every Contract Year or upon request after at least thirty (30) days’ notice from Customer, Provider will meet with representatives of Customer to in a reasonable level of detail (1) explain how the Services are provided, (2) explain how the Provider Systems work and should be operated, and (3) provide such training and Documentation as Customer may require for Customer to (a) provide services that interact with or interface with the Services, (b) understand and operate the Provider Systems, and (c) understand and perform the Services after the expiration or termination of the Agreement.

(B) In addition to the Process Interface Manual, upon Customer’s request from time to time, Provider will deliver to Customer a full description of the processes, tools, and environmental configuration related to the Services.

**3.9 Reports** . Provider will provide to Customer, in a form acceptable to Customer, the reports and/or explanations and/or Documentation and/or materials described in the Agreement and in all Statements of Work. Provider’s costs in collecting and analyzing data and in preparing such reports are included in the Fees and are not subject to any additional charges, fees, or reimbursements. At any time during the Term, Customer may require reasonable additional ad-hoc reports. Such additional reasonable ad-hoc reports will be provided by Provider at no additional cost. Any requests for ad-hoc reports beyond such reasonable ad-hoc reports may be subject to the Change Control Procedures.

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**3.10 Customer Systems** . In providing the Services, Provider will ensure that it does not, without the prior written consent of an Authorized Representative of Customer or acting in accordance with a signed Statement of Work in which Provider expressly sets forth the anticipated adverse effect or alteration, adversely affect or alter (A) the operation, functionality, security, or technical environment of the Customer Systems or (B) the processes used by Customer, Customer Group, or Customer Agents in connection with their businesses (the “ **Retained Processes** ”). Provider will be proactive in keeping itself informed about Customer Systems and Retained Processes as necessary to provide the Services. At Customer’s request, Provider will coordinate with Customer to evaluate the impact of any alterations to Customer Systems and Retained Processes to the extent such alterations may impact the Services. Customer may furnish Provider Staff with access to Customer Systems, as expressly set forth in the applicable SOW when and to the limited extent necessary for the performance of Services under this Agreement. Provider will limit all access to Customer Systems, whether provided at a Service Location or through remote access, to such Provider Staff approved in advance in writing by an Authorized Representative of Customer and to such access as is reasonably necessary in connection with the performance of Services, only for the minimum duration necessary to perform the relevant Services, and as otherwise may be limited by the terms of agreements with third parties (to the extent any relevant requirements have been disclosed in advance by Customer to Provider). Provider will ensure that no Provider Staff will have “standing access” to Customer Systems ( *i.e.* , continuing access whether or not the individual is actively engaged in the performance of Services). Customer will make such Customer Systems available on an “AS IS, WHERE IS, AS AVAILABLE” basis, with no warranties whatsoever. Customer may terminate any and all such access at any time and upon such termination, such Provider Staff will immediately cease all access and use of such Customer Systems and any Non-Provider Failure resulting from such termination of access will be treated in accordance with **Section 3.20** (Excuse from Performance). Provider will comply with, and will ensure Provider Staff comply with, all agreements with third parties and all Customer Policies prohibiting or restricting remote access to Customer Systems (to the extent any relevant requirements and Customer Policies have been disclosed in advance by Customer to Provider).

**3.11 Satisfaction Surveys** . Provider and Customer will conduct satisfaction surveys as set forth in the Statements of Work.

**3.12 Responsibility for Resources** . Except as otherwise expressly provided in this MSA or the applicable Statement of Work, Provider will be responsible for providing the Service Locations, personnel, Systems, software, technical knowledge, expertise, and other resources necessary to provide the Services.

**3.13 Work Reprioritization** . Customer may identify new activities to be performed by Provider Staff then assigned on a dedicated basis to providing the Services (including work activities that would otherwise be treated as a Project) or reprioritize or reset the schedule for existing work activities to be performed by such Provider Staff, so long as such activities are similar to the types of activities that Provider Staff is trained to perform. Unless otherwise agreed in writing, Customer will incur no additional charges for the performance of such work activities by Provider Staff to the extent such work activities can be performed by the dedicated Provider Staff then assigned to Customer. Provider will use commercially reasonable efforts to perform such work activities without impacting the established schedule for other tasks or the performance of the Services in accordance with the Service Levels. If after using such efforts it is not possible to avoid such an impact, Provider will notify Customer of the anticipated impact and obtain Customer’s consent prior to proceeding with such work activities. In its sole discretion, Customer may forego or delay such work activities or temporarily adjust the work to be performed by Provider, the schedules associated with the work, or the Service Levels to permit the performance by Provider of such work activities at no additional cost or charge to Customer. Any Non-Provider Failure resulting from such re-prioritized work will be treated in accordance with **Section 3.20** (Excuse from Performance)

Confidential

Page 4 of 66

**3.14 Cooperation with Third Parties** . The performance of Services may involve work with the former third-party suppliers of the Services (“ **Former Providers** ”) and other third-party suppliers, consultants, advisors, suppliers, contractors, and agents of Customer. If reasonably requested by Customer, Provider will work diligently with any and all such third parties as specified by Customer in writing for the purposes of the fulfillment of the Services and at no additional charge. Without limiting the foregoing, Provider will provide such cooperative assistance and access to Provider Systems as reasonably requested by Customer Group, including providing: (i) the necessary information related to the Services that Customer Group requests to enable Customer Group to draft a request for proposal(s) relating to the Services and to provide existing information to support due diligence for recipients of such request for proposal; (ii) access to Service Locations used by Provider to provide the Services as necessary for Customer Group or third-party suppliers to survey the current environment being used to deliver the Service(s) (other than a Shared Service Delivery Environment); (iii) assistance and support services to Customer Group or third-party suppliers to the extent related to the Services; (iv) making the Provider Systems available to Customer, Customer Agents, and/or the third-party supplier in accordance with and to the extent required by **Article 20** (Termination Assistance) and **Schedule 4** (Termination Assistance); (v) such information regarding the operating environment, Provider System constraints and other operating parameters related to the Services as a person with reasonable commercial skills and expertise would find reasonably necessary for the Customer Group or third-party suppliers to perform the Services; and (vi) assisting Customer in obtaining all required Customer Consents. For the avoidance of doubt, under no circumstances are any such providers, consultants, advisors, suppliers, or contractors of Customer authorized to bind Customer in any way or enter into any commitments on behalf of Customer. Provider will treat Confidential Information received from Former Providers, such third-party suppliers, consultants, advisors, suppliers, and contractors in connection with the provision of Services as Customer’s Confidential Information subject to the terms of the Agreement. If the foregoing obligations require any of Provider’s Confidential Information to be disclosed to a third party, such third party must execute a reasonable non-disclosure agreement before receiving such information. Customer will ensure that the terms of such non-disclosure agreement are at least as protective of Provider’s Confidential Information as the terms of the Agreement. In connection with such cooperation and access, Customer, Customer Agents and other third parties will comply with Provider’s reasonable security and confidentiality requirements provided in advance in writing to Customer, and will, to the extent performing work on Provider Systems, comply with Provider’s reasonable standards, methodologies, and procedures provided in advance in writing to Customer.

**3.15 Management of Third-Party Contracts** .

Confidential

Page 5 of 66

(A) Each SOW will include in an exhibit the license, support, maintenance and/or other agreements (if any) that Provider will manage as part of the Services (collectively, the “**Managed Contracts**”, each such agreement a “**Managed Contract**”). If any agreement inadvertently was omitted from such exhibit but was reasonably expected by the Parties to be included on such exhibit, then at Customer’s request, the Parties will add such agreement to the applicable exhibit. Customer hereby appoints Provider to act during the Term as its single point of contact and interface for any matters pertaining to services being managed by Provider under such Managed Contracts with respect to the Agreement, and Customer will notify all appropriate third parties (including the third-party suppliers of such Managed Contracts) of such appointment. Provider will manage the Managed Contracts in accordance with the terms of the Managed Contracts and the Agreement. Customer may at any time exercise reasonable control over Provider’s actions with respect to such third-party suppliers as it relates to the provision of Services. Notwithstanding the foregoing, (1) Provider will not manage the [\*\*\*] attributable to such Managed Contracts and (2) in performing such services, Provider will not, without the prior written authorization of Customer, incur any cost, expense or obligation in the name of Customer and/or Customer Group, and/or make any representations or warranties on behalf of Customer and/or Customer Group.

(B) Without limiting the generality of the foregoing, Provider will: (1) cooperate with Customer and the applicable third-party supplier with respect to the Managed Contract; (2) manage the third-party supplier’s performance as outlined in such Managed Contract and act as a single point of contact and interface, on Customer’s behalf, to the applicable third-party supplier with respect to issues relating to such performance; (3) proactively manage the day-to-day services, deliverables and other performance obligations set forth in the Managed Contract; (4) operate an on-going quality management program to verify that the quality of services delivered by the third-party supplier meets or exceeds performance requirements stated in the Managed Contract; (5) subject to Customer’s prior written approval, include Customer and the applicable third-party supplier in operational meetings related to the Services, and overall governance meetings, to the extent necessary and appropriate to the services being performed by the third-party supplier; (6) work and cooperate with the third-party supplier to define and reduce to practice a hierarchical dispute resolution process within no more than [\*\*\*] days (unless another period is requested by either Party, discussed by the Parties in good faith and agreed to by the Parties, such agreement will not be unreasonably withheld) of the addition of the applicable Managed Contract to the applicable SOW exhibit; (7) handle and reasonably resolve third-party supplier performance issues and other issues or disputes related to the Managed Contract through the hierarchical dispute resolution process to resolution and monitor occurrences to determine corrective action requirements; (8) monitor and report on third-party supplier performance and any corrective action plan status, if applicable; (9) promptly notify Customer of any issues that may impact the third-party supplier’s overall provision of the Services and which could not be reasonably resolved during the agreed upon hierarchical dispute resolution process between Provider and the applicable third-party supplier; and (10) promptly provide Customer with information with respect to Provider’s management of the Managed Contract, including the foregoing, upon written request by Customer.

(C) Upon the expiry of each Managed Contract, Customer will allow such Managed Contract to expire and, as of the expiry date, Provider will be responsible for providing the day-to-day services, deliverables and other performance obligations set forth in the Managed Contract either itself or through a Provider Agent (subject to the provisions of **Section 9.6** (Provider Agents)) and the foregoing responsibilities will no longer apply with respect to such expired Managed Contract. In the event Customer terminates any such Managed Contract prior to its contract expiry date, at Customer’s request and subject to the Change Control Procedures, Provider will be responsible for

Confidential

Page 6 of 66

providing the day-to-day services, deliverables and other performance obligations set forth in such terminated Managed Contract.

**3.16 Customer Policies** . In providing the Services, Provider will comply with the Customer Policies and will cause its Provider Agents and Provider Staff to comply with all Customer Policies. Provider acknowledges that Customer may update, amend, and modify the Customer Policies and issue new Customer Policies from time to time. If changes to any such Customer Policies or any new Customer Policies are first disclosed to Provider, or revised, after the Effective Date, to the extent that Provider's compliance with the newly disclosed or revised policies and procedures would materially increase or decrease: (A) Provider's resource requirements; and/or (B) level of effort or ability to perform the affected Services, either Party may request the Parties to enter the Change Control Procedures specified on **Schedule 6** (Change Control Procedures) to expeditiously negotiate in good faith a change order and an equitable allocation of increased or decreased costs, if any. For the avoidance of doubt, Provider will comply with such new, updated, amended, or modified Customer Policies and will cause its Provider Agents to comply with all such Customer Policies. Customer will notify Provider of any such updates, amendments or modifications to Customer Policies in writing and Provider will be responsible for complying with such changes thereafter. Provider acknowledges that such written notice may include a link to such changes on Customer's intranet. Customer will provide Provider with a password or passwords for Provider to access Customer's intranet. Provider will take such actions as are necessary to maintain the confidentiality of, and prevent the unauthorized use of, each password and will be responsible for any such unauthorized use. Provider will immediately notify Customer in writing if Provider determines, or has reason to believe, that an unauthorized Person has gained access to a password.

**3.17 Non-Compliance with Customer Policies** . Suspected or actual incidents of non-compliance with Customer Policies will be managed to resolution by Provider's compliance team in cooperation and consultation with Customer, and Provider will provide reports to Customer on an event-occurrence basis. If Provider Staff are responsible for such incidents, appropriate disciplinary action will be taken in accordance with the appropriate Provider Staff policies. Such disciplinary action may include Provider removing such Provider Staff from providing Services to Customer.

**3.18 Process Interface Manual** . As Provider transitions and migrates Services in accordance with each applicable Transition Plan, Provider will as part of Transition, with Customer's input and cooperation, develop and update as-needed at all times during the applicable SOW term, a detailed, Customer-specific Process Interface Manual for each of the Services in a mutually agreed form and scope that minimally includes the content specified on **Schedule 7** (Program Management and Process Interface Manual). Provider will provide the Services in accordance with the Process Interface Manual. Prior to completion of the Process Interface Manual, Provider will provide the Services in accordance with the policies and procedures generally used by Customer.

**3.19 Due Diligence** .

(A) Provider acknowledges and agrees that it has performed reasonable due diligence required to perform its obligations under the Agreement. Provider will not be entitled to adjust the Fees or be relieved of any obligations under the Agreement, including performing the Services and satisfying the Service Levels, as a result of: (A) its failure to request any information or documents from Customer; (B) its failure to review any information or documents provided by or on behalf of Customer, including information or documents provided by or on behalf of Customer under the Statements of Work; or (C) its failure to verify any assumptions that would otherwise impact the Services or Fees. Customer will, in a timely manner, provide information reasonably requested by Provider to support

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the performance by Provider of its due diligence obligations; provided, that such information is reasonably available to Customer and Customer has the rights necessary to provide such information to Provider.

(B) During the period starting after the Effective Date and ending on [\*\*\*] (the “ **Joint Verification Period** ”), Customer and Provider may inventory and validate any information that is reflected in or omitted from this Agreement based on information provided by Customer prior to the Effective Date, related to the following categories: 1) resource unit baselines; 2) third-party contracts, leases, licenses that are in scope; 3) Customer Systems; and 3) Affected Employees and their responsibilities (“ **Verifiable Information** ”).

(1) Customer and Provider will each appoint a business lead responsible for leading and coordinating the joint verification process for Customer and Provider, respectively (“ **Joint Verification Leads** ”). The Joint Verification Leads will meet promptly (and then at least weekly during the Joint Verification Period) and will work cooperatively to request, provide and promptly respond to any requests from each other related to Verifiable Information. At the initial meeting, Provider’s Joint Verification Lead will present a list of any Verifiable Information that Provider would like to verify.

(2) If, as a result of this joint verification process, Customer or Provider discovers inaccuracies or omissions in Verifiable Information, Customer and Provider will negotiate in good faith to amend this Agreement to provide for an equitable adjustment to the Fees, baselines, Service Levels and other terms of this Agreement affected by such inaccuracies or omissions. If either Party disputes the inaccuracy or the equitable adjustment, either Party may submit the matter to the escalation process in **Schedule 5** (Governance).

**3.20 Excuse from Performance** . Provider will be excused from failures to perform Services only if and to the extent (A) caused by (i) the act or omission of Customer, a member of Customer Group or a third party engaged by or managed by Customer (except if and to the extent caused by Provider); (ii) any Equipment, Customer Software, or other technology refresh or maintenance for which Customer or a member of Customer Group is responsible to the extent such responsibility is identified in the Statement of Work; (iii) Provider acting, or refraining from acting, in accordance with the written decision or direction of the Customer Relationship Manager; *provided* that Provider has described the potential adverse consequences to the Customer Relationship Manager in writing; or (v) Customer or Customer Group’s failure to perform one or more Customer Operational Responsibilities or of Customer’s responsibilities expressly identified in this Agreement or the applicable SOW, *provided* such Customer responsibilities are reasonably required under the circumstances and are not hindered, impaired, delayed, or otherwise impacted by or dependent on Provider, Provider Agents, or Provider Staff (a “ **Non-Provider Failure** ”); (B) such Non-Provider Failure directly and materially causes Provider’s failure to perform the applicable Services (an “ **Excused Performance Failure** ”); and (C) Provider, as soon as reasonably possible under the circumstances, (1) notifies Customer of the Non-Provider Failure and Customer fails to remedy the failure; (2) uses commercially reasonable efforts to mitigate the adverse consequences of the Non-Provider Failure; and (3) timely resumes performing the affected Services upon resolution of the Non-Provider Failure. Customer will not be in breach of the Agreement, and Provider will not have the right to terminate this MSA, the applicable SOW, or the Services (in each case, in whole or in part), to claim damages, or to seek other remedies (except for excuse from performance under this section) due to the there being a Non-Provider Failure that causes an Excused Performance Failure (except for Customer’s obligations hereunder related to payment and withholding of disputed Fees). Each member of Provider Staff is expected to immediately escalate an issue if such Provider Staff member’s performance is impacted by a Non-Provider Failure. Notwithstanding any Non-Provider Failure, Provider will use proactive, good faith efforts at all times to maximize the possibility that the Services will nonetheless be performed in a timely manner.

Confidential



**3.21 Acceptance Testing** . Any and all Projects, Services, Deliverables, phases, and milestones where (A) an acceptance process or testing is set forth in a SOW, (B) there are Fees or other amounts specifically payable for such item, or (C) Customer reasonably requests an acceptance process or testing in advance of delivery or performance of such item (“ **Reviewable Items** ”) when performed, delivered, or completed by Provider, are subject to testing by Customer using the acceptance criteria set forth in the applicable SOW (“ **Acceptance Testing** ”). If no acceptance criteria is set forth in the applicable SOW, then acceptance for each such item will be subject to Customer’s reasonable satisfaction that such item (1) complies in all material respects with the Specifications, Documentation, and instructions therefor and (2) if applicable, is delivered free of material errors. Customer will notify Provider of its acceptance or rejection of each Reviewable Item within the time frame specified in a Statement of Work or if not specified in a commercially reasonable time frame but not exceeding [\*\*\*] Business Days unless otherwise agreed. Customer may notify Provider of rejection of a Reviewable Item in writing, including through reporting at the Performance Review Board under **Schedule 5** (Governance), that such item is not performing sufficiently or requires additional work, re-performance, or re-delivery in order to meet the acceptance criteria and specifying in reasonable detail how the Reviewable Item failed to meet the acceptance criteria.

**3.22 Deficiencies in Reviewable Items** . If Customer rejects a Reviewable Item, the Parties will agree promptly (but in no later than [\*\*\*] Business Days from the date of rejection of such Reviewable Item) upon a time period, for Provider to correct the Reviewable Item at Provider’s sole cost and expense and re-deliver to Customer the corrected Deliverable (including by, at Provider’s option, repairing or replacing any and all such Deliverables), re-perform the Project or Service, or satisfy the phase or milestone (or, in each case, the portion thereof). Provider will take such actions set forth in the foregoing sentence during the agreed upon time period and will recover to the Project schedule as per the applicable SOW.

**3.23 Rejection Process** . If any Reviewable Item is again rejected after Provider takes such actions set forth in **Section 3.22** (Deficiencies in Reviewable Items) above, then Customer may elect, in its sole discretion for those Reviewable Items for which a specific Fee or other amount is payable: (A) (1) if payment has not been made, to withhold payment for such Reviewable Item; or (2) if payment has been made, to recover from Provider the Fees paid for such Reviewable Item; (B) to correct the Reviewable Item and charge Provider with the cost of such correction; (C) to provide Provider with another opportunity to correct the Reviewable Item at Provider’s sole cost and expense and re-deliver to Customer the corrected Deliverable (including by, at Provider’s option, either repairing or replacing such Deliverable), re-perform the Project or Service if applicable, or satisfy the phase or milestone (or, in each case, the portion thereof) within the agreed upon time period determined in accordance with **Section 3.22** (Deficiencies in Reviewable Items); or (D) to purchase services comparable to the Reviewable Item in the open market or from other suppliers, as deemed appropriate by Customer using commercially reasonable judgement and subject to Customer’s duty to mitigate, and, at Customer’s option, charge Provider with any reasonable cost differential between the price of the Reviewable Item and the price paid, which cost may include premium fees for expedited delivery and administrative costs. In addition, for any Reviewable Item agreed to and designated by the Parties in an SOW as a “ **Termination Trigger Deliverable** ” or otherwise as an event for which the applicable SOW may be terminated, Customer may reject the Reviewable Item in accordance with **Section 3.21** (Acceptance Testing), and terminate the applicable SOW (in whole or in part), upon written notice to Provider, effective immediately, without further opportunity to cure and without further obligation or liability to Provider except for any Termination Charge Amounts specified in an SOW.

Confidential

Page 9 of 66

**3.24 Final Acceptance** . For Projects where there are multiple related Reviewable Items, acceptance pursuant to **Sections 3.20** (Acceptance Testing), **3.22** (Deficiencies in Reviewable Items), and **3.23** (Rejection Process) above of any Reviewable Items by Customer only constitutes conditional acceptance (“**Conditional Acceptance**”) by Customer. Customer will have a commercially reasonable time frame for the final acceptance or rejection in accordance with this Section of all Reviewable Items in each Project. Customer will confirm in writing that each such Reviewable Item conforms in all material respects to any and all completion criteria and/or user acceptance testing or other similar testing processes set forth in a SOW, performance in accordance with the Specifications and Documentation in a production environment, and/or such other requirements for final acceptance set out in an applicable SOW (collectively, “**Completion Criteria**”). Customer will notify Provider of failure to meet the Completion Criteria in writing, including through reporting at the Performance Review Board under **Schedule 5** (Governance), that such Reviewable Items are not performing sufficiently or require additional work, re-performance, or re-delivery to meet the applicable Completion Criteria and specify in reasonable detail how the Reviewable Item failed to meet the Completion Criteria. In the case of any such rejection, Provider may have a reasonable opportunity to cure any such deficiencies but no later than [\*\*\*] days from receipt of such notice unless another time period is agreed by the Parties in writing.

**3.25 No Deemed Acceptance** . Customer’s acceptance of any Reviewable Item will not prejudice Customer’s rights or remedies in equity, at Law, or under contract, including in the event that any such Reviewable Item is subsequently found not to be in compliance with the relevant acceptance criteria during any warranty period for such Reviewable Item set out in the applicable Statement of Work. For the avoidance of doubt, access, use or possession, completion, payment for, and/or receipt of delivery of any Reviewable Item will not be deemed to be acceptance of such item.

#### **ARTICLE 4. TRANSITION .**

**4.1 Transition Plan** . Provider will perform all functions and services necessary to accomplish the transition of the Services to Provider (“**Transition**”) in accordance with the high-level Transition Plan agreed to by the Parties and attached to the applicable Statement of Work (collectively, the “**Transition Services**”). After the applicable SOW Effective Date, the Parties may agree in a writing signed by Authorized Representatives of the Parties on amendments to the Transition Plan to describe detailed responsibilities of the Parties, which will upon agreement supersede and replace the initial Transition Plan. Unless and until the final plan is agreed between the Parties, the initial Transition Plan (along with the other provisions of this MSA and the applicable Statement of Work) will be the binding contractual document related to the Transition. In the Agreement, “**Transition Plan**” means the initial plan or the final plan, as applicable.

Confidential

Page 10 of 66

**4.2 Transition Performance** . Provider will take ownership of the Transition during the entire Transition period and will be fully responsible for performing the Transition Services set forth in the Transition Plan and all other necessary activities to successfully complete the Transition. Provider will perform the Transition without causing material disruption to the businesses of Customer and/or Customer Group, including the Customer Systems and Retained Processes. Provider will work closely with Customer and all Former Providers to facilitate the performance of the Transition in such a manner as to ensure that, throughout the Transition, the Services are provided to Customer without interruption unless agreed in the Transition Plan and at a level at least as high as the Services were provided by Customer, Customer Group, Customer Agents, and/or the Former Providers prior to the applicable SOW Effective Date, in no case below levels achieved by well-managed operations performing services similar to the Services. Customer may monitor, test, and otherwise participate in the Transition as set out in the Transition Plan or as otherwise mutually agreed. If the Transition will entail phased implementation for separate countries or other Service components, unless the Transition Plan provides otherwise, Customer may delay the commencement of one or more Transition phases until deficiencies affecting prior phases have been fully remedied or, if Customer deems the delay necessary, to make Changes to the Transition process to avoid replicating such deficiencies in new phases.

## **ARTICLE 5. TRANSFORMATION .**

**5.1 Transformation Plan** . Customer may request that Provider perform functions and services necessary to accomplish the transformation of Customer's environment to the future state of operations (“ **Transformation** ”). At such request, Customer and Provider will develop an initial, high level Transformation Plan to be attached to the applicable Statement of Work, as amended by the detailed Transformation Plan (collectively, the “ **Transformation Services** ”). After the initial Transformation Plan, the Parties may agree in a writing signed by Authorized Representatives of the Parties on amendments to the initial Transformation Plan to expand the high initial Transformation Plan into a detailed Transformation Plan, which will upon agreement supersede and replace the initial Transformation Plan. Unless and until another plan is agreed between the Parties, the initial Transformation Plan (along with the other provisions of this MSA and the applicable Statement of Work) will be the binding contractual document related to the Transformation. In the Agreement, “ **Transformation Plan** ” means the initial plan or the final plan, as applicable.

**5.2 Transformation Performance** . Provider will take ownership of the Transformation during the entire Transformation period and will be fully responsible for performing the Provider responsibilities set forth in the Transformation Plan and any other necessary activities reasonably required to successfully complete the Transformation. Provider will perform the Transformation without causing material disruption to the businesses of Customer or Customer Group. Provider will work closely with Customer, Customer Group, Customer Agents, and any other third parties as requested by Customer to facilitate the performance of the Transformation in such a manner as to ensure that, throughout the Transformation period, unless otherwise agreed in the Transformation Plan, the Services are provided to Customer and/or Customer Group without interruption and at a level at least as high as the Services were provided by Customer, Customer Group, or Customer Agents prior to the initiation of the Transformation period, in no case below levels achieved by well-managed operations performing services similar to the Services. Customer may monitor, test, and otherwise participate in the Transformation as set out in the Transformation Plan or as otherwise mutually agreed. If the Transformation will entail phased implementation for separate countries or other Service components, unless the Transformation Plan provides otherwise, Customer may delay the commencement of one or more Transformation phases until deficiencies affecting prior phases have been fully remedied or, if Customer deems the delay necessary, to make Changes to the Transformation process to avoid replicating such deficiencies in new phases.

Confidential

Page 11 of 66

**5.3 Transformation Timing** . Provider's timely performance of any Transformation Services under an applicable Statement of Work is of the utmost importance to Customer. Provider's failure to achieve any required milestones or other deadlines according to the terms of the Transformation Plan in the applicable Statement of Work will be a breach of Provider's obligations under the Agreement.

**ARTICLE 6. HUMAN RESOURCES** . If applicable, the transfer of all Affected Employees to Provider, as pertains to each Statement of Work, will take place in accordance with the terms and conditions of that Statement of Work and with **Schedule 8** (Employee Matters).

**ARTICLE 7. SERVICE LEVELS AND CREDITS** .

**7.1 General** . Provider will perform the Services under each Statement of Work in such manner as to meet or exceed the applicable Service Levels, which will be defined, along with calculation methodologies and other detailed terms governing the Service Levels, in attachments to the Statement of Work (the "**Service Level Exhibits**" of such Statement of Work). In addition, on a continuous basis and at no additional charge, Provider will actively (A) identify ways to improve the Service Levels and (B) identify and apply proven techniques and tools from other installations within its operations that would benefit Customer either operationally or financially. As defined in Service Level Exhibits, Customer has the right to change one or more Service Level from time to time. Provider will perform all Services without expressly defined Service Levels with at least the same degree of accuracy, quality, completeness, timeliness, responsiveness, and efficiency as the greater of (1) the level provided prior to the SOW Effective Date by or for Customer or (2) levels achieved by well-managed operations performing services similar to the Services. Provider will perform all tasks necessary to complete the Services in a timely and efficient manner, using standard and effective methodology and tools.

**7.2 Reporting and Measurement Tools** . Provider will provide Customer with, at a minimum, monthly reports on Provider's compliance with the Service Levels in accordance with **Schedule 3** (Cross-Functional Service Terms) and **Schedule 9** (Information and System Security Requirements). Provider will implement measurement and monitoring tools and procedures required to measure Provider's performance of the Services and to report on such performance at a level of detail that is sufficient for Customer to readily verify compliance with the Service Levels, including measurements and metrics to assess information and system security Service Levels, and whether additional security controls or remediation are appropriate, subject to the processes described in **Section 17.13** (Notice of Adverse Impact). Provider will provide Customer with online access to the raw data from such measurement and monitoring tools as such data becomes available online to Provider. Upon reasonable request by Customer, Provider will provide Customer and its designees access to and information concerning such measurement and monitoring tools, procedures, and performance information for purposes of audit, inspection, and verification.

**7.3 Anticipated Default; Root-Cause Analysis** . If Provider anticipates that it may fail to meet one or more Service Levels, Provider will promptly inform Customer of the anticipated failure and, thereafter, at time intervals determined by Customer, update Customer on its efforts to avoid the anticipated failure until Customer determines the updates are no longer needed and Provider is once again able to meet or exceed the affected Service Levels. If Provider fails to provide the Services in a manner that meets or exceeds one or more Service Levels, Provider will (A) promptly perform a root-cause analysis as specified in the Service Level Exhibits, (B) identify the problems causing the failure, (C) report to Customer on the nature and scope of the problems identified, (D) correct the problems as soon as practicable, (E) resume meeting the Service Levels, (F) advise Customer of the progress of correction efforts at stages determined by Customer, and (G) demonstrate to Customer that all reasonable action has been taken to prevent a recurrence of the

Confidential

Page 12 of 66

Service Level default. The failure to complete (A)-(G) above for Critical Performance Indicators will be considered a material breach of the Agreement.

**7.4 Performance Credits** . If Provider fails to provide the Services under a Statement of Work in accordance with any of one or more Critical Performance Indicators for that Statement of Work, without limiting Customer's other remedies, Provider will incur the Performance Credits identified in the Service Level Exhibits. Performance Credits under each Statement of Work will be allocated and calculated in accordance with the procedure set forth in the Service Level Exhibits of that Statement of Work.

**7.5 Deliverable Credits** . Deliverables and Deliverable Credits, if applicable, are separately defined in and for each Statement of Work and, in the case of Projects, in and for each Project Document. A Deliverable Credit will be credited to Customer on the invoice that contains Fees for the month during which the right to such Deliverable Credit arose or as soon thereafter as is practicable. Issuance of a Deliverable Credit does not limit Customer's other remedies for Provider's delay or failure in providing a Deliverable.

## **ARTICLE 8. SERVICE LOCATIONS .**

**8.1 Service Locations** . The Services under each Statement of Work will be provided to Customer and/or Customer Group from Service Locations or from other locations, including any Customer facilities, as set forth in an applicable SOW except for those services for back-office and program management functions such as financial management, contract management and risk management functions, *provided* that in no event will any Confidential Information, Personally Identifiable Information, or other data of Customer's customers be Processed as a part of such services. Such Service Locations or other locations, including any Customer facilities and the Provider Software, Provider Systems and facilities used to provide such Services will be physically located at, only in the United States unless otherwise set forth in a SOW. Provider will obtain Customer's prior written approval if Provider intends to transfer Services from one Service Location to another Service Location, even if both Service Locations are specified in the applicable SOW. Without limiting the foregoing, all Personally Identifiable Information in Customer Data will be physically located in, or on media or Provider Systems that are physically stored in the United States or at such Customer facilities where physically stored as of the Effective Date unless otherwise set forth in an applicable Statement of Work. Personally Identifiable Information will not be Processed outside of the United States or such Customer facilities without Customer's prior written approval, in accordance with **Schedule 9** (Information and System Security Requirements) unless otherwise set forth in an applicable Statement of Work. All Customer-approved transfers of Services to another Service Location is at no additional cost or charge to Customer. With the exception of any facilities and Customer Systems designated as Customer's responsibility pursuant to a Statement of Work, Provider is financially and operationally responsible for providing all furniture, fixtures, Systems (including office equipment such as copiers, fax machines, and printers), consumables (such as office supplies), connectivity, space, and other facilities required to perform the Services and all upgrades, improvements, replacements and additions to such furniture, fixtures, Systems, consumables, connectivity, space and facilities. Without limiting the foregoing, Provider will provide (A) all maintenance, site management, site administration, and similar services for the Service Locations, and (B) uninterrupted power supply services for the Service Locations.

Confidential

Page 13 of 66

**8.2 Physical Safety and Security Procedures** . For each Service Location, Provider will maintain and enforce physical safety and security procedures that are at least equal to industry standards for locations similar to the Service Location or are any higher standard agreed on by the Parties, but at a minimum, complies with Customer Policies and **Schedule 9** (Information and System Security Requirements). When on Customer premises, Provider Staff will comply with the Customer Policies that are applicable on Customer premises.

## **ARTICLE 9. PROVIDER STAFF .**

### **9.1 Key Personnel .**

(A) Unless otherwise agreed by the Parties, all Key Personnel will be dedicated to providing Services to Customer and/or Customer Group for the amount of time identified in the applicable SOW for each member of Key Personnel. Before assigning any individual to a Key Personnel position, Provider will give Customer prior notice of the assignment and provide information reasonably requested by Customer about the individual. Provider will obtain Customer's consent before assigning any individual to a Key Personnel position. Except as provided in paragraph (B) below, such consent may not be unreasonably withheld.

(B) Without Customer's prior consent, which it may withhold in its sole discretion, Provider will not replace or reassign (1) the IBM Client Partner Executive for two (2) years after the Effective Date or (2) the other Key Personnel for one (1) years after the applicable SOW Effective Date or original assignment date of that Person, whichever is later. This paragraph (B) does not apply to replacement of an individual who (a) voluntarily resigns from Provider, (b) is dismissed by Provider for misconduct ( *e.g.* , fraud, drug abuse, theft or failure to perform duties and responsibilities), or (c) dies or is unable to work because of a disability.

(C) Upon notice to Provider, Customer may require removal of any Key Personnel. In such case, Provider will, as soon as reasonably practicable, replace such Person. Provider will maintain backup procedures and conduct replacement procedures for the Key Personnel in such a manner that assures an orderly succession for any Key Personnel who are replaced.

**9.2 Provider Staff Agreements** . Each member of Provider Staff will be a party to a written agreement or certification process with Provider, sufficient to require, that (A) requires the person to abide by (1) Customer Policies, (2) **Schedule 9** (Information and System Security Requirements), and (3) other Statements of Work in performing the Services, (B) requires the person to comply with the confidentiality provisions of the Agreement. In addition, each member of Provider Staff will be a party to a written agreement with Provider that contains such provisions for the assignment of Intellectual Property Rights as are necessary for Customer to receive ownership of Assigned Rights under the assignment set forth in **Article 16** (Intellectual Property Rights).

Confidential

Page 14 of 66

**9.3 Provider Staff Removal** . If Customer determines that a member of Provider Staff should be removed from Customer’s account, Provider will have a reasonable opportunity to investigate the situation and discuss it with Customer, and if the situation is not resolved to Customer’s satisfaction promptly, Provider will immediately remove such individual upon Provider’s receipt of notice from Customer.

**9.4 Background Check and Work Eligibility** . At its expense and in compliance with applicable Law, Provider is responsible for conducting a background check and substance abuse screening of each member of Provider Staff. Provider will conduct background checks and substance abuse screenings in accordance with the requirements detailed in **Schedule 10** (Background Checks) in addition to any and all requirements provided in the human resource related attachments to the Statement of Work (the “**Human Resource Exhibits** ” of such Statement of Work). Without limiting the requirements specified in the Human Resource Exhibits, Provider Staff background checks and substance abuse screenings will include investigation of such matters as reasonably required by applicable Law or by Customer, subject to the limitations of applicable Law. Furthermore, Provider must complete background checks and substance abuse screenings for each member of Provider Staff prior to or within 15 days of such member initial providing Services to Customer. Provider will maintain Documentation evidencing that background investigations and substance abuse screenings have been completed on all Provider Staff and will grant Customer access to such Documentation upon request.

Provider will not assign individuals to Provider Staff who, based on the results of their background check or substance abuse screening, are likely to present a threat to the safety or security of people or assets on Customer’s premises or at Service Locations. For those Provider Staff needing a visa to enter and/or remain in the country in which Services are rendered, or otherwise needing immigration status in any country in which Services are rendered in order to carry out activities in connection with the Agreement, Provider and Provider Staff will (A) pay for and be solely responsible for obtaining and maintaining such visas and (B) take all steps necessary to obtain and maintain appropriate immigration classifications or status for such personnel. Provider will, and will cause its Provider Staff, to comply fully with the terms and conditions of any immigration classification or status.

**9.5 Restricted Parties Compliance** . All Provider Agents and Provider Staff performing the Services in the United States or supporting Provider activities under the Agreement, regardless of their location, will be validated by Provider to not be on any list publicly published and maintained by the U.S. government of Persons or entities with whom any U.S. Person or entity is prohibited from conducting business (“**Restricted Parties Lists** ”).

Provider is responsible for ensuring that it remains informed of the Restricted Parties Lists and that at the time of hire no Provider Agents or Provider Staff are on any of these lists. Provider is also responsible for reviewing updates to the Restricted Parties Lists. In the event that Provider or Customer becomes aware of any Provider Agents or Provider Staff being included on any Restricted Parties List, Provider will promptly remove such Provider Agents or Provider Staff from any involvement in or in support of the Services and will report to Customer that it has done so.

**9.6 Provider Agents** .

(A) Except as provided in (B) below, Provider may not delegate or subcontract any of the Services or any of Provider’s obligations under the Agreement, in whole or in part, without obtaining Customer’s prior written consent. To obtain Customer’s approval of a Provider Agent, Provider must notify Customer of the proposed Provider

Agent, and the scope of the Services proposed to be subcontracted. In any event, Provider must require its Provider Agents to meet, exceed, and/or comply with any applicable terms of the Agreement.

(B) Provider may, in the ordinary course of business and without Customer's prior written consent, enter into subcontracts (i) with the Provider Affiliates listed on **Schedule 11** (Provider Affiliates); (ii) with subcontractors that it uses in a Shared Service Delivery Environment where such services or products do not represent material components of the Services and do not involve any direct contact with Customer Personnel or access to or other Processing of Confidential Information, including any Personally Identifiable Information, of any member of Customer Group; or (iii) for third-party services or products that represent non-material tasks that do not involve any direct contact with Customer Personnel or access to or other Processing of Confidential Information, including any Personally Identifiable Information, of any member of Customer Group.

(C) No subcontracting will release Provider from its responsibility for its obligations under the Agreement. Provider is responsible for the work and activities of each of Provider Agents and members of Provider Staff employed by Provider Agents. Provider will be liable for any breach of, or act or omission under, this Agreement by any Provider Agent or member of Provider Staff employed by a Provider Agent. Provider is responsible for all payments to Provider Agents. Provider will promptly pay for all services, materials, equipment and labor used by Provider in providing the Services, and Provider will promptly cause any Provider Agent to remove all claims against Customer or lien on Customer Resources.

(D) Customer may require Provider to remove from providing Services to Customer or to replace any Provider Agent who is deemed unacceptable by Customer for performance or any other reasonable reason, including potential harm to reputation or violation of Law. Except in the case of a violation of Law or unauthorized Processing of Personally Identifiable Information, Provider will have a reasonable opportunity to investigate Customer's concerns but no more than [\*\*\*] Business Days after the Customer request, correct the Provider Agent's deficient performance and provide Customer with a written action plan to assure that such deficient performance will not recur. If Customer is not reasonably satisfied with Provider's efforts, Provider will remove and replace such Provider Agent as soon as possible.

**9.7 Services to Customer Competitors** . No dedicated Provider Staff or Key Personnel will provide services to any Customer Competitor at a time when they have access to Customer's Confidential Information and for one (1) month before or one (1) year after they have such access. Provider will take such steps that are reasonable and necessary to prevent Customer's Confidential Information from being disclosed to any Provider Staff performing services on behalf of any Customer Competitor.

**9.8 Qualifications and Training of Provider Staff** . Provider will assign a clearly adequate number of Provider Staff to perform the Services and will account for turnover (voluntary and involuntary). Provider Staff will be properly educated, trained, and fully qualified for the Services they are to perform. Provider will not charge Customer for the costs of training such Provider Staff, including for the time necessary for such Provider Staff to become familiar with providing Services to Customer or with Customer or with Customer's business. This training will include at least any required continued education and ongoing training related to data protection, risk control, regulatory requirements, and other relevant education.

Confidential

Page 16 of 66



**9.9 Personnel Turnover Rate** . Provider will take steps to keep the turnover (voluntary and involuntary) rate of Provider Staff at a level that (A) ensures continued performance of the Services in compliance with the Agreement and (B) is comparable to or better than the industry average for well-managed service providers in the applicable country performing services similar to the Services. Provider will provide to Customer a semi-annual turnover (voluntary and involuntary) report of Provider Staff, and the Parties will work together to reduce the turnover (voluntary and involuntary) rate. Provider will ensure that all replacement personnel receive sufficient information and training, without additional charge to Customer, to assure continuity of Services without adverse impact. For avoidance of doubt, the turnover (voluntary and involuntary) rate of Provider Staff is not an acceptable justification for Provider not meeting or exceeding a Service Level. Provider is responsible for managing turnover (voluntary and involuntary) to meet or exceed established Service Levels.

## ARTICLE 10. CONTINUED PROVISION OF SERVICES .

**10.1 Disaster Recovery Plan** . Provider will maintain adequate disaster recovery and business continuity plans in respect of each Service Location from which the Services are provided or supported that, at a minimum, meet the requirements of **Schedule 12** (Disaster Recovery and Business Continuity Requirements) (each, a “ **Provider DR Plan** ”). Provider will update and test the Provider DR Plans at least annually (or such other frequency specified in **Schedule 12** ) and certify in writing the results of such testing to Customer. Provider also will comply with such other requirements specified in **Schedule 12** (Disaster Recovery and Business Continuity Requirements). Upon a disaster, Provider will promptly undertake all applicable actions and precautions under the Provider DR Plan or Customer DR Plan (as defined in **Schedule 12** (Disaster Recovery and Business Continuity Requirements)), as applicable, and diligently pursue them as necessary to avoid or, if unavoidable, minimize any interruption of Services, and will provide for the recovery and reconstitution of the affected System to a known state after a disruption, compromise, or failure within defined time periods consistent with recovery time and recovery point objectives. If the Services are not reinstated within the defined recovery time periods set out in **Schedule 12** (Disaster Recovery and Business Continuity Requirements), Provider will work to reinstate Services within a reasonable time as agreed upon with Customer.

**10.2 Force Majeure** . If and to the extent that a Party’s performance is prevented or delayed by fire, flood, riot, war, pandemic, acts of God, or other events beyond such Party’s reasonable control (other than failure to perform by, or acts or omissions of, Provider Agents in connection with their responsibilities under the Agreement) and without the fault or negligence of the Party affected (a “ **Force Majeure Event** ”), then the affected performance will be excused for so long as (A) the Force Majeure Event continues to prevent or delay performance and (B) the Party continues efforts to recommence performance to the extent possible without delay or disruption to Services, including through the use of alternate sources and workaround plans. The affected Party will promptly notify the other Party in writing, describing the Force Majeure Event in reasonable detail. Force Majeure Events do not excuse any disaster recovery and business continuity obligations under **Section 10.1** (Disaster Recovery Plan). Other than a Force Majeure Event subject to the parameters of this **Section 10.2** (Force Majeure), neither Party will assert any excuse or defense to a breach of contract claim under the doctrine of “impossibility,” “impracticability” or “frustration of purpose,” or other similar legal argument. Notwithstanding the foregoing, “Force Majeure Event” expressly excludes: (A) any event that Provider reasonably could have prevented by any testing either required to be performed pursuant to the Services or

Confidential

Page 17 of 66

necessary to provide the Services; (B) any Provider Staff strike, walkout or other labor shortage; (C) any non-performance of a Provider Agent, regardless of cause (unless due to a Force Majeure Event); in the case of a Cyber Attack that would otherwise be deemed a Force Majeure Event, any event that could have been prevented through Provider's compliance with the Agreement or Customer Policies; and/or (D) any event which could have been prevented by reasonable precautions and can reasonably be circumvented by the non-performing Party through the use of alternate sources, work-around plans, or other means.

**10.3 Alternate Source** . If any Force Majeure Event or disaster delays performance of Services necessary for the performance of functions Customer reasonably identifies as critical for more than [\*\*\*] days, Customer may procure such Services from an alternate source, and Provider will reimburse Customer for reasonable amounts paid to the alternate source to the extent exceeding the Fees for such Services for up to a period of one hundred and eighty (180) days or until Provider is able to resume performance of the affected Services. If the Force Majeure Event or disaster delays performance of such critical Services for more than twenty (20) additional days, Customer may terminate this Agreement, the applicable Statement of Work, or the affected Services as of the date specified by Customer in a termination notice to Provider subject to payment of any Termination Charge Amounts set forth in the applicable Statement of Work.

**10.4 No Payment for Unperformed Services** . Customer is not required to pay for those Services that are not performed because of excused performance in a Force Majeure Event or under **Section 3.20** (Excuse from Performance).

**10.5 Allocation of Resources** . Whenever a Force Majeure Event or a disaster causes Provider to allocate limited resources among Provider's customers, Provider will not give other customers priority over Customer or redeploy or reassign any Key Personnel (except as permitted under the Agreement) to another Provider customer.

**10.6 Service Improvement Plan and Step-In** . In the event (A) Provider is failing to deliver all or a material part of the Services in material conformance with the terms of the Agreement or (B) if Customer has a good faith basis for dissatisfaction with any portion of the Services that Customer reasonably identifies as critical, within fourteen (14) calendar days (or such shorter period as may be reasonably required in Customer's notice to comply with a legal or regulatory requirement) after receipt of Customer's written notice of such failure or dissatisfaction Provider will: (1) commence a root cause analysis as to the cause of such failure or dissatisfaction; (2) upon completion of a root cause analysis, develop a service improvement plan to address and remedy the failure and/or improve the level of satisfaction ("SIP"); (3) present such plan to Customer for its review, comment and approval; and (4) take action in accordance with the approved SIP. Customer and Provider will establish a schedule for completion of a root cause analysis and the preparation and approval of the SIP, which will be reasonable and consistent with the severity and materiality of the problem. Provider's SIP developed hereunder will specify the specific measures to be taken by Provider and the dates by which each such action will be completed. Provider will perform its obligations under the SIP.

If Provider fails to implement such SIP and/or upon the occurrence of any Step-In Event, then Customer may assign Customer Personnel or third parties to step in and perform any failing elements of the Services until such time as Provider can reasonably demonstrate the ability to resume provision of such Services or

Confidential

Page 18 of 66

assist Provider in remedying the matters triggering the Step-In Event for up to a maximum of [\*\*\*] (“**Step-In Period**”). Provider will reasonably cooperate with any Customer, Customer Agents, Customer Group, or any other third party selected by Customer. In addition, upon the occurrence of any Step-In Event and at any time prior to the remediation, resolution, or cessation of the circumstances triggering the Step-In Event, Customer may exercise any of the following rights and take any of the following actions: (A) subject to Provider’s reasonable security and confidentiality requirements provided in advance in writing to Customer, enter and remain on any affected Service Location premises other than any Shared Service Delivery Environment; (B) take control of the Services (including the Provider Systems) other than Services and Provider Systems provided in a Shared Service Delivery Environment; and (C) give directions to and manage Provider Staff. If Customer exercises any of its rights under this **Section 10.6** (Service Improvement Plan and Step-In), Provider must provide all Documentation, materials, rights, and assistance reasonably required to enable Customer (or its nominee) to exercise the step-in rights under this **Section 10.6** (Service Improvement Plan and Step-In). During the Step-In Period, Customer will have no liability for or obligation to pay Provider for those Services and Provider will be relieved from its obligation to meet Service Levels for Services if and to the extent Customer has exercised its step-in rights under this Section and Provider is not performing such Services, for the Step-In Period. From and after completion of the Step-In Period, Provider will resume performing those Services in accordance with the Agreement (including Service Levels) and Customer will be obligated to pay for such Services in accordance with the Agreement. Customer’s exercise of its rights under this Section will not constitute a waiver by Customer of any termination rights or rights to pursue a claim for damages arising out of the failure that led to such rights being exercised.

#### **ARTICLE 11. CUSTOMER OPERATIONAL RESPONSIBILITIES .**

**11.1 Customer Resources .** As needed for Provider to provide Transition Services and/or Transformation Services and/or the Services set forth in each Statement of Work, Customer will make available to Provider the Customer Resources in accordance with the following provisions:

- (A) Provider will use the Customer Resources for the sole and exclusive purpose of providing the Transition Services and/or the Transformation Services under that Statement of Work to Customer and for the sole benefit of Customer and/or Customer Group;
- (B) use by Provider of the Customer Resources does not constitute a leasehold interest in favor of Provider or any Provider Agents;
- (C) Provider will use the Customer Resources in a reasonably efficient manner, reimbursing Customer for any unnecessary increased facility costs incurred by Customer;
- (D) Provider will, and will ensure that Provider Agents, keep the Customer Resources in good order, not commit or permit waste or damage to Customer Resources, not use the Customer Resources for any unlawful purpose, and comply with Customer’s standard policies and procedures as in effect and updated from time to time, including procedures for the physical security of the Customer Resources;

Confidential

Page 19 of 66

(E) Provider will not make any improvements or changes involving structural, mechanical, or electrical alterations to any Customer Resources without Customer's prior written approval; and

(F) when a Customer Resource is no longer required to provide Transition Services and/or Transformation Services and/or Services, Provider will return such resource to Customer in substantially the same condition as when Provider began using such resource, ordinary wear and tear excepted.

**11.2 Customer Operational Responsibilities** . Customer will perform those operational responsibilities set forth in **Section 11.1** (Customer Resources) for each Transition Plan and/or Transformation Plan and for each Statement of Work with respect to the applicable Services (collectively, the “ **Customer Operational Responsibilities** ”).

## **ARTICLE 12. FEES AND PAYMENT .**

**12.1 General** . In consideration of the Services under each Statement of Work, Customer will pay Provider the Fees set forth in a schedule of payments and payment-related terms attached to that Statement of Work (“ **Fee Exhibit** ”). Except as expressly set forth in the Fee Exhibits, (A) no amounts are payable under the Agreement and (B) there will be no adjustments to the Fees unless agreed to in writing by an Authorized Representative of Customer. Provider will invoice the Fees under each Statement of Work as set forth in the Fee Exhibit, including such format as set forth in the applicable SOW and such detail as reasonably requested by Customer. Customer is not liable to pay any Fees not invoiced within [\*\*\*] days after Provider was first entitled to invoice Customer for such Fees. Any and all undisputed Fees, the time for payment of which is not otherwise specified in the applicable Fee Exhibit, are due and payable [\*\*\*] days after receipt of invoice from Provider that has been approved in accordance with **Schedule 5** (Governance). Any unused credits against future payments (including Performance Credits and Deliverable Credits) owed to either Party by the other pursuant to a Statement of Work will be paid to the applicable Party within [\*\*\*] days after the expiration or termination of the applicable Statement of Work. **Schedule 17** (Extended Payment Plan) will apply with respect to invoicing and payment of Fees for Services subject to and in accordance with the terms and conditions thereof.

**12.2 Expenses** . All costs of providing the Services are included in the Fees and will not be reimbursed by Customer. When an SOW expressly permits reimbursement of Provider's expenses, the type of expenses that Customer will reimburse must be expressly identified in such SOW and, to be reimbursed, such expenses must be (A) for pass-through expenses, at Provider's actual cost incurred without mark-up of any kind; (B) reasonable and customary; (C) approved in writing in advance by Customer prior to Provider incurring such expense, unless otherwise provided in the SOW; and (D) any such charges will be accompanied by legible copies of receipts or other back-up documentation sufficient enough for Customer to validate any such charges.

**12.3 Disputed Fees and Right to Offset** . Subject to the Disputed Payments Cap, Customer may withhold payment of any portion of an invoice that it disputes in good faith and will provide Provider with a written explanation in a form acceptable to Customer of the basis for any disputed amounts it has withheld. Customer's failure to dispute or withhold a payment will not operate as a waiver of the right to dispute and recover such amount. Customer may deduct from the Fees owed by Customer to Provider any amount that should be reimbursed to Customer or is otherwise payable to Customer pursuant to this MSA or any Statement of Work, including but not limited to Deliverable Credits and Performance Credits.

Confidential

Page 20 of 66

In the event of a payment dispute, the Parties will immediately investigate and attempt to resolve the dispute pursuant to **Schedule 5** (Governance) hereof. Upon resolution of the dispute, Customer will promptly pay to Provider any disputed amounts due to Provider, and Provider will promptly pay Customer any disputed amounts due to Customer, based upon the agreement reached by the Parties during the dispute resolution process. In the event such withheld amounts would, in the aggregate, exceed the equivalent of [\*\*\*] months of the Fees payable under the applicable Statement of Work (including under all related Local Services Agreements) (“**Disputed Payments Cap**”), Customer will pay to Provider, under protest and without waiver of any rights regarding the underlying dispute, all disputed amounts in excess of the Disputed Payment Cap as and when due.

**12.4 Transition Fees** . Neither Customer nor any member of Customer Group will incur any charges, fees, or expenses payable to Provider or Provider Agents in connection with the Transition Services, other than those Fees specified in the applicable Fee Exhibit. In addition, to the extent Provider or Provider Agents knows of charges, fees, or expenses payable to third parties in connection with the Transition Services (other than those to be incurred by Customer in connection with its performance of tasks designated in the Transition Plan as Customer’s responsibility), such third-party charges, fees, and expenses will be generally described in the applicable Fee Exhibit. Within [\*\*\*] calendar days after the SOW Effective Date, Provider will advise Customer in writing of those third-party vendors who, based on Provider’s prior knowledge from working with its other customers, typically charge their customers for required consents.

**12.5 Extraordinary Events** . Any significant change in Customer’s business, such as merger, acquisitions, divestitures, general business downturn, or other business event that increases or decreases or is expected to increase or decrease the utilization of the Services under any Statement of Work by more than [\*\*\*] percent ([\*\*\*]%), and such change persists or is expected to continue for [\*\*\*] or more months, will be deemed an “**Extraordinary Event** .” Upon such Extraordinary Event, Customer may elect to have the Fees equitably adjusted by providing notice to Provider (“**Extraordinary Event Notice**”). Such equitable adjustments will be based on Provider’s [\*\*\*] and related [\*\*\*] that either (A) can be eliminated by Provider in the event of an extraordinary reduction or (B) will be unavoidably incurred by Provider in the event of an extraordinary increase in such utilization. If the Parties cannot agree on an equitable adjustment to the Fees within [\*\*\*] ([\*\*\*]) days after Provider’s receipt of the Extraordinary Event Notice, Customer has the right to terminate the applicable Statement of Work, in whole or in part, by written notice to Provider effective as of the date specified in such notice, in accordance with the provisions of **Section 19.1** (Termination for Convenience).

**12.6 Benchmarking Arrangement** . Provider agrees to an arrangement with Customer to provide assurance to Customer that the Fees Customer pays for Services provide continuing excellent value. This arrangement includes the following terms:

(A) At any time after the first anniversary of the Effective Date but no more than once every 24 months during the Term, Customer may request the services of a benchmark service provider (“**Benchmarking Consultant**”) to evaluate the cost of the Services under any Statement of Work (“**Benchmarked Services**”) compared to other providers in the outsourcing industry (“**Benchmarking**”).

Confidential

Page 21 of 66

(B) The Benchmarking Consultant will be independent of the Parties, subject to a tripartite confidentiality agreement with protections no less protective to the confidentiality provisions of this Agreement, and will be qualified to do the Benchmarking. The Parties will identify a group of pre-approved Benchmarking Consultants. At the time that Customer requests Benchmarking, the Parties will work together to mutually agree upon a specific Benchmarking Consultant for the Benchmarking. If the Parties do not agree upon a specific Benchmarking Consultant within fifteen (15) Business Days of Customer's request, Customer has the right to unilaterally select the Benchmarking Consultant from the pre-approved group.

(C) Provider will cooperate fully with the Benchmarking Consultant and provide all information relating to the provision of the Services to Customer that the Benchmarking Consultant requests. Benchmarking Consultant will compare the Fees against a Representative Sample of a sufficient number of Comparators, and will use normalization to ensure appropriate adjustments are made to all data to account for any differences between the Services and the Comparators so that a true "like-for-like" comparison is done.

(D) Only Customer may exercise the right to conduct a Benchmarking. Provider has no right to conduct a Benchmarking under this **Section 12.6** (Benchmarking Arrangement).

(E) To the extent that the Benchmarking reveals that the Fees under the applicable SOW for the Benchmarked Service are in the aggregate higher than the average of the Representative Sample (" **Benchmark Level** ") but are within [\*\*\*] percent ([\*\*\*]%) of the Benchmark Level (" **Accuracy Dead Band** "), then there will be no adjustment to such Fees. If the Benchmark determines that the Fees for the Benchmarked Services are in the aggregate higher than the Benchmark Level for such Benchmarked Services by more than the Accuracy Dead Band, then the applicable SOW will be amended to adjust the Fees for the Benchmarked Services in an amount equal to the percentage difference between the Fees for the Benchmarked Services and the Benchmark Level for such Benchmarked Services, less the applicable Dead Band, up to a maximum adjustment not to exceed [\*\*\*] percent ([\*\*\*]%) of the Fees that were in effect pursuant to the Fees Exhibit for such Services in such year (the " **Mandatory Adjustment** "). For example, if the Benchmark indicates that the Fees for the Benchmarked Services are [\*\*\*] percent ([\*\*\*]%) greater than the Benchmark Level, then the Mandatory Adjustment would be [\*\*\*] percent ([\*\*\*]%) ( *i.e.* , [\*\*\*] percent ([\*\*\*]%) minus the [\*\*\*] percent ([\*\*\*]%) dead band). Customer and Provider will negotiate any adjustment to the Fees in excess of the Mandatory Adjustment and escalate any dispute pursuant to **Schedule 5** (Governance). If the Fees Exhibit of the applicable SOW is not amended within [\*\*\*] days as set forth herein or Customer and Provider are unable to agree on any adjustment to the Fees above the Mandatory Adjustment after escalation pursuant to **Schedule 5** (Governance), Customer will have the right to terminate the Agreement, in whole or in part, for convenience in accordance with **Section 19.1** (Termination for Convenience) but without payment of any applicable Termination Fees.

(F) Provider has no right to increase any Fees or decrease any Service Levels as a result of Benchmarking.

(G) Any Changes made to the charges pursuant to a Benchmark will take effect on a prospective basis [\*\*\*] days following the Benchmark's delivery of the final Benchmark Results.

(H) The Parties will resolve any disagreement related to the Benchmark using the dispute resolution process set forth in **Schedule 5** (Governance).

Confidential

Page 22 of 66

**ARTICLE 13. TAXES .**

**13.1 Customer Tax Responsibility .** Customer is liable for any sales tax, use tax, service tax, value added tax, transfer tax, excise tax, or any other similar tax imposed by any Governmental Authority arising from the performance or furnishing by Provider of Services or Provider's Fees to Customer. Customer is not responsible for any tariffs, customs duties, and import fees based on Provider's import or export of Provider Equipment, if any, as part of the Services, which will remain the responsibility of Provider. Such taxes will be invoiced by Provider to Customer unless Customer provides a valid resale certificate or other Documentation required under applicable Law to evidence tax exemption. Taxes must be invoiced on the same invoice as the product or Services that are subject to the tax. Provider invoices will separately state any Fees that are subject to taxation and separately identify the tax jurisdiction and the amount of taxes invoiced therein. Provider will assume any and all responsibility (including the payment of interest and penalty assessments levied by an applicable Governmental Authority) for failure to invoice, collect, or remit a tax.

**13.2 Provider Tax Responsibility .** Provider is responsible for any sales tax, use tax, service tax, value added tax, transfer tax, excise tax, tariffs, duties, import fees, and any and all other similar tax imposed on Provider with respect to any labor, equipment, materials, goods, or services acquired, used, or consumed by Provider in providing the Services to Customer. Should Customer be required under applicable Law to withhold taxes on any payments to Provider or Provider Agents, Customer will be entitled to deduct any such withholdings from payments due to Provider.

**13.3 Excluded Tax Responsibilities .** Neither Party is responsible for any franchise, privilege, income, gross receipts, or business activity taxes based on the other Party's gross or net income, net worth, or business activities. Neither Party is responsible for any real or personal property taxes assessed on tangible or intangible property owned or leased by the other Party.

**13.4 Tax Cooperation .** Customer and Provider will cooperate to segregate the Fees into the following separate payment streams: (A) those for taxable Services; (B) those for nontaxable Services; (C) those for which a sales, use or other similar tax has already been paid; and (D) those for which Provider functions merely as a paying agent for Customer in receiving goods, supplies or services (including leasing and licensing arrangements) that otherwise are nontaxable or have previously been subject to tax. Provider will assist Customer to provide any Documentation necessary to prevent withholding, if applicable (see, e.g. , **Section 13.2** (Provider Tax Responsibility)). In addition, each Party will cooperate as reasonably requested by the other Party to more accurately determine the requesting Party's tax liability and to minimize such liability, to the extent legally permissible. Each Party will provide and make available to the other Party any resale certificates, information regarding out-of-state sales or use of equipment, materials, or services, and any other exemption certificates or information requested by the other Party.

**ARTICLE 14. AUDITS .**

**14.1 Service Audits .** Upon reasonable advance notice from Customer (which normally will be at least [\*\*\*] Business Days, but may be less if Customer requires, in its sole discretion, that certain audits, such as physical security audits, be conducted upon shorter notice), Provider and Provider Agents will provide Customer, Customer Group, Customer Agents, and any and all regulators of Customer (" **Customer Auditors** ") with access to and any assistance that they may require with respect to the Service Locations and the Systems (other than access to a Shared Service Delivery Environment) for the purpose of performing audits or inspections of the Services and the business of Customer relating to the Services, including operational, security, safety, health, financial, social responsibility, and other audits, including but not limited to emergency response, disaster recovery, and business continuity. Pursuant to

Confidential

Page 23 of 66

written notice to Provider, Customer Auditors will be granted escorted access to Provider's Shared Service Delivery Environments (other than a cloud services environment) for the purposes of addressing any significant security or service risks described in such notice. Provider will make every reasonable effort to comply with Customer request in a timely manner. If any audit by a Customer Auditor results in Provider being notified that Provider or Provider Agents are not in compliance with any Law or other requirement set forth in the Agreement, Provider will, and will cause Provider Agents to, promptly take actions to comply with such Law, or other requirement in the Agreement at no additional expense to Customer. Any third parties who perform audits under this Agreement will be Customer Agents which perform or render auditing services to or for Customer and are not an IBM Competitor and will execute an appropriate confidentiality agreement provided in advance in writing to Customer. Audits will be conducted during reasonable business hours and be conducted no more than twice annually and apply only to the previous twelve months' activities (or, if longer, the time since the last previous audit) except in the case of audits required or performed by a Governmental Authority or security or emergency response, disaster recovery and business continuity audits, which may be conducted at any time on an ad-hoc basis.

**14.2 Fees Audits** . Upon notice from Customer, Provider will provide Customer Auditors with access to such financial records and supporting Documentation as reasonably requested to determine if Fees and/or Termination Charge Amounts have been invoiced in accordance with the Agreement. Provider will promptly reimburse Customer for any overcharge revealed by such an audit. If the aggregate overcharges related to the period of such audit exceed US \$[\*\*\*], Provider will also reimburse Customer for the cost of such audit.

**14.3 Audits Required by Governmental Authorities** . Upon the direction of a Governmental Authority having jurisdiction over Customer, and upon at least fifteen (15) days' prior written notice from Customer, or upon such shorter period of time as may be required by the requesting Governmental Authority, Provider will provide the Governmental Authority and any other Customer Auditors, during normal business hours, with access to and any assistance (including reports) that they may require with respect to the records, systems, and operations of Provider relating to the Agreement.

**14.4 Provider's Controls Audits** . Provider will conduct its own audits pertaining to the Services consistent with the audit practices of well-managed companies that perform services similar to the Services. Without limiting the generality of the foregoing, Provider will provide to Customer for Provider and Provider Agents the following unqualified audits, in each case conducted by an independent public accounting firm, and certification:

(A) Annually on or before November 30, a Statement on Standards for Attestation Engagements No. 16, Service Organization Control 1, Type 2 (SSAE 16 SOC I Type 2) audit as defined by the American Institute of Certified Public Accountants) ("**SOC 1 Audit** ") *provided* that such SOC 1 Audit will be a multi-client audit covering the common processes designed and used by Provider for applicable Service Locations designated in the applicable Statement of Work. The SOC 1 Audit does not cover specific processes designed by or provided to Provider by Customer. The scope and timing of the SOC 1 Audit will be determined by Provider based on the recommendation from and with the agreement of its auditing firm. The SOC 1 Audit may include the Services only if the transfer to Provider of operational responsibility for Services is completed in sufficient time to allow six (6) months of steady state performance of the Services after completion of Transition during the period to which the SOC 1 Audit relates;

Confidential

Page 24 of 66



(B) An ISO 27001/27002 certification(s) covering all Provider Systems and related processes, policies, and other tools used in providing the Services under this Agreement, except for those Provider Systems used for back-office and program management functions such as financial management, contract management, and risk management functions. In the event that Provider receives notice or otherwise becomes aware that any such certification(s) will or may be revoked at any time during the Term of the Agreement, Provider will provide prompt written notice of such condition to Customer and take prompt action to comply with the relevant standards to obtain such certification(s) at Provider's sole cost and expense; and

(C) annually on or before January 31, letters attesting that the controls existing as of the most recent SOC 1 audit and ISO 27001/27002 certification(s) remain in effect.

**14.5 Record Retention** . Provider will retain records and supporting Documentation sufficient to document the performance of Services and invoicing of Fees hereunder.

**14.6 Facilities** . Provider will provide to Customer Auditors, on Provider's premises (or, if the audit is being performed of a Provider Agent, Provider Agent's premises), space, office furnishings (including lockable cabinets), telephone services, internet connectivity, utilities and office-related equipment, and duplicating services as the Customer Auditors may reasonably require to perform the audits described in this **Article 14** (Audits). Customer and its auditors will not have access to Provider's or its Affiliates' or Provider Agents' locations (except as specified above), to any Shared Service Delivery Environment or to Provider's other customers' locations or proprietary data, confidential information about other IBM customers, or information subject to attorney-client, work product or other privilege or prepared at the direction of counsel, information about Provider costs (other than costs needed to confirm the accuracy of any pass-through expenses).

**14.7 Response** . Customer and Provider will meet promptly upon the completion of any audit conducted pursuant to this **Article 14** (Audits) ( *i.e.* , an exit interview) or the issuance of an interim or final report following such an audit. Provider will respond to each exit interview or audit report in writing within fifteen (15) days, unless a shorter response time is specified in such report. Customer and Provider will develop and agree upon an action plan to expeditiously address and resolve any deficiencies, concerns, and recommendations identified in such exit interview or audit report. Provider, at its own expense, will then undertake remedial action in accordance with such action plan and the dates specified therein to the extent necessary to comply with Provider's obligations under the Agreement to the reasonable satisfaction of Customer.

Confidential

Page 25 of 66

## ARTICLE 15. RELATIONSHIP MANAGEMENT .

**15.1 Governance Guidelines and Principles** . Governance of the Parties' relationship pursuant to the Agreement will follow the guidelines and principles set out in **Schedule 5** (Governance). Each Party will make management decisions, respond to communications, and perform the other governance responsibilities set forth in **Schedule 5** (Governance) in a timely manner.

**15.2 Appointments** . Customer will appoint an appropriately qualified individual to manage Customer's obligations and monitor Provider's performance under the Agreement (the "**Customer Relationship Manager**"). Customer will be entitled to appoint and / or change the individual designated as the Customer Relationship Manager at Customer's sole discretion. Except as expressly stated in the Agreement, if Customer's approval is required under the Agreement, Customer will only be deemed to have given that approval if provided by the Customer Relationship Manager, a duly authorized delegate of the Customer Relationship Manager, or the Customer's Authorized Representative. Provider will appoint an appropriately qualified individual to manage Provider's performance of the Agreement and day-to-day operations (the "**IBM Client Partner Executive**"). The IBM Client Partner Executive will be a full-time employee of Provider and provide Customer with a single point of contact, having authority and responsibility to perform the tasks referred to in **Schedule 5** (Governance).

**15.3 Escalation Procedure for Relationship Issues** . The Parties will follow the escalation procedure set out in **Schedule 5** (Governance) to resolve any issues related to the Agreement.

## ARTICLE 16. INTELLECTUAL PROPERTY RIGHTS .

**16.1 Assigned Rights** . All Assigned Rights are the property of Customer and Customer will own all right, title, and interest therein and thereto. Provider hereby irrevocably and unconditionally assigns, transfers, and conveys to Customer, or its designee, all of Provider's right, title, and interest throughout the world, including all Intellectual Property Rights, in and to any and all Assigned Rights. Such assignment, transfer and conveyance to Customer will not be terminated nor Customer's right, title, and interest in and to the Assigned Rights waived by Customer for any failure of Customer to exercise such rights, in whole or in part. Provider hereby waives and irrevocably quitclaims to Customer or its designee any and all claims, of any nature whatsoever, that Provider now has or may hereafter have for infringement of any and all Assigned Rights.

**16.2 Moral Rights** . All assignments of Assigned Rights include all rights of attribution, paternity, integrity, modification, disclosure, and withdrawal, and any other rights throughout the world that may be known as or referred to as "moral rights," "artist's rights," "droit moral," or the like (collectively, "**Moral Rights**"). If any Intellectual Property Rights, including Moral Rights, in the Assigned Rights cannot (as a matter of applicable Law) be assigned to Customer as set forth in **Section 16.1** (Assigned Rights), then (A) Provider hereby irrevocably waives the enforcement of such rights and all claims of any kind against Customer with respect to such rights, and (B) to the extent Provider cannot (as a matter of applicable Law) make such waiver, Provider hereby grants to Customer, without further consideration, an exclusive, perpetual, transferable, irrevocable, fully-paid, royalty-free license, throughout the world, with the right to sublicense through multiple levels of sub-licensees, under any and all such rights to (1) reproduce, create Improvements of, distribute, publicly perform, publicly display, transmit, and otherwise use the Assigned Rights in any medium or format, whether now known or hereafter discovered; (2) use, make, have made, sell, have sold, offer to sell, market, promote, import, and otherwise exploit any product or service, in each case, in whole or in part, based

Confidential

Page 26 of 66

on, embodying, incorporating, or derived from the Assigned Rights; and (3) exercise any and all similar present or future rights in the Assigned Rights.

**16.3 Maintenance of Records** . Provider will keep and maintain adequate and current written records of all Assigned Rights made or conceived by Provider or Provider Staff (solely or jointly with others) during the Term. The records may be in the form of notes, sketches, drawings, flow charts, electronic data or recordings, laboratory notebooks, or any other format or media. The records will be available to and remain the sole property of Customer at all times. Provider will deliver all such records (including any copies thereof) to Customer at the time of termination of this MSA or an applicable SOW, in each case, in whole or in part, or at any time as requested by Customer.

**16.4 Further Assurances** . Provider will assist Customer, or its designee, at its expense, in every proper way to secure Customer's, or its designee's, rights in the Assigned Rights in any and all countries, including notifying Customer no later than five (5) Business Days after the Development of each Assigned Rights that may be subject to protection as Intellectual Property Rights, the disclosure to Customer or its designee of all pertinent information and data with respect to the Assigned Rights, the execution of all applications, specifications, oaths, assignments, recordations, and all other instruments by Provider, its Provider Agents, and Provider Staff that Customer or its designee will deem necessary in order to apply for, obtain, maintain, and transfer such rights, or if not transferable, waive and agree never to assert such rights, and in order to assign and convey to Customer or its designee, and any successors, assigns, and nominees the sole and exclusive right, title, and interest in and to such Assigned Rights. Provider further agrees that Provider's obligation to execute or cause to be executed, when it is in Provider's power to do so, any such instrument or papers will continue during and at all times after the end of the Agreement and until the expiration of the last such Intellectual Property Right to expire in any country of the world. Provider and its Provider Agents and Provider Staff will not be entitled to any additional payment or compensation for assigning and cooperating with Customer in obtaining the Assigned Rights.

**16.5 Customer Property** . Provider will have no rights or interests in any Customer Property except for the licenses expressly set forth in the applicable Statement of Work. As applicable, a Statement of Work may grant Provider a non-exclusive, non-transferable license to Use the Customer Property identified in such Statement of Work that (A) is owned by Customer or Customer Group and (B) to the extent permissible under the applicable third-party agreements, is licensed from a third party and required to provide such Services, in each case solely as necessary to provide Services under such Statement of Work and solely for the benefit of Customer Group. If such license is provided in an applicable Statement of Work and to the extent permissible under the applicable third-party agreements, Provider may also sublicense such rights to Provider Agents as necessary to perform Services under such Statement of Work. Provider will comply with the duties, including use and non-disclosure restrictions, imposed on Customer by the licenses of such Customer Property licensed from a third party, and Provider will not seek to revoke or otherwise modify the terms of such licenses without Customer's prior written consent.

**16.6 Provider Property** .

(A) Provider represents and warrants that Provider will not engage in any Usage of Provider Property without the prior written approval of Customer, which Customer may withhold, condition, or delay in its sole discretion. To the extent Provider engages in any Usage of Provider Property, with or without approval, Provider hereby grants Customer, without further consideration, a perpetual, transferable, irrevocable, fully-paid, royalty-free license, throughout the world, with the right to sublicense through multiple levels of sub-licensees, under any and all such Intellectual Property Rights to (1) reproduce, create Improvements of, distribute, publicly perform, publicly display, transmit, and otherwise use the Provider Property, in any medium or format, whether now known or hereafter discovered;

(2) use, make, have made, sell, have sold, offer to sell, market, promote, import, and otherwise exploit all Assigned Rights, in whole or in part, based on, embodying, incorporating, or derived from the Provider Property; and (3) exercise any and all similar present or future rights in the Provider Property; each solely in connection with the applicable Assigned Rights; *provided, however*, that in each of subsection (1), (2), and (3) such Provider Property remains incorporated in such Assigned Rights (*i.e.*, Customer may not commercialize the Provider Property incorporated in such Assigned Rights as a standalone product).

(B) Subject to the licenses granted in the Agreement, all Provider Property and, except as set forth in an applicable Statement of Work, any Improvements of Provider Property, including all Intellectual Property Rights therein and thereto, will remain the sole and exclusive property of Provider. During the term of each applicable Statement of Work, Provider hereby grants Customer Group a non-exclusive, non-transferable license to Use all Provider Property owned by Provider required for Customer Group to receive Services under that Statement of Work and, to the extent permissible under the applicable third-party agreements, all Provider Property licensed from third parties required to receive such Services.

(C) Provider will grant Customer Group, effective on the End Date of each Statement of Work, a global, non-exclusive, non-transferable (except to a New Entity), fully paid up license to Use the Provider Property licensed from third parties for [\*\*\*] following the End Date of each Statement of Work to the extent necessary for Customer Group to internally perform the Services associated with that Statement of Work or to have a third-party provider perform such Services for Customer Group. Customer will pay to Provider the applicable license fees for the foregoing license (if any) and will comply with any applicable third-party license terms, each as expressly set forth in such SOW.

**16.7 No Implied License** . Nothing in the Agreement will be construed as conferring any rights by implication, estoppel, or otherwise, under any Intellectual Property Right or other right, other than the rights expressly granted in the Agreement.

## **ARTICLE 17. CONFIDENTIALITY AND CUSTOMER DATA .**

**17.1 Use and Disclosure** . Neither Party as recipient Party will disclose or allow the disclosure of the Confidential Information of the other Party as disclosing Party, or use the disclosing Party's Confidential Information for the benefit of, any third party without the disclosing Party's prior written consent. A recipient Party will protect all Confidential Information relating to a disclosing Party against unauthorized use or disclosure by the recipient Party to the same extent and with at least the same degree of care as the recipient Party protects its own confidential or proprietary information of like kind and import, but in no event using less than a reasonable degree of care. To the extent that Provider is in possession or control of any Confidential Information of any member of Customer Group in connection with its provision of the Services, Provider will comply with no less than the security measures in the Agreement designed to safeguard Customer Data set forth in **Schedule 9** (Information and System Security Requirements). Customer may disclose the Provider's Confidential Information to Customer's and Customer Group's officers, employees, subcontractors, third-party providers, consultants, advisors, suppliers, contractors, agents, lawyers, and accountants only to the extent not prohibited by Law and only as necessary to receive the Services or otherwise exercise its rights or perform its obligations under the Agreement. Provider may disclose Customer's Confidential Information to Provider's Affiliates, officers, Provider Staff and Provider Agents, only to the extent not prohibited by Law and only as necessary to perform the Services under the Agreement. A recipient Party will be liable for any breach of the Agreement by any Person receiving disclosing Party's Confidential Information. Each receiving Party will cause by agreement, instruction or otherwise, compliance with the confidentiality obligations of this Agreement by its employees,

Confidential

Page 28 of 66

agents, and others who are permitted access to or use of (in accordance with the terms herein) the Confidential Information of the disclosing Party.

**17.2 Required Disclosure** . If a recipient Party is requested or required by any Governmental Authority to disclose any of the disclosing Party's Confidential Information, the recipient Party may disclose only the requested Confidential Information if the recipient Party, unless prohibited by legal order, provides prompt notice of such disclosure to the disclosing Party and, if requested by the disclosing Party, provides reasonable assistance in obtaining an appropriate protective order or other similar relief.

**17.3 Security Incidents** . Without limiting either Party's rights arising from a breach of this **Article 17** (Confidentiality and Customer Data), each Party as a recipient Party will, at its own cost and expense, unless otherwise specified in this Agreement:

(A) Promptly, and in no event later than 24 hours after Provider becomes aware of, or suspects that, a Security Incident has occurred, notify the disclosing Party of any such Security Incident;

(B) Promptly furnish to the disclosing Party full details of any such Security Incident, and any efforts to investigate the cause and scope of the Security Incident, correct or mitigate the Security Incident, and prevent a recurrence of such Security Incident;

(C) Promptly remediate the cause of any such Security Incident, and use diligent efforts to prevent a recurrence of any such Security Incident;

(D) Assist the disclosing Party in investigating and preventing the recurrence of and in the furtherance of any correction, remediation, or investigation of any Security Incident, and/or the mitigation of any damage, including providing any notification or remedial measures including technical and other remediation, and notifications, in coordination with the disclosing Party, that the disclosing Party may determine is appropriate. Recipient Party will be solely responsible for the costs and expenses of all such investigation and remediation measures and all other actions undertaken pursuant to the foregoing (including under subparagraph 17.3(C) above), including the costs associated with notifications and regulatory inquiries, whether undertaken by the recipient or disclosing Party, subject to **Section 22** of this MSA, to the extent such Security Incident was the direct result of the acts or omissions of the receiving Party or its employees or agents (or in the case of Provider, Provider Agents or Provider Staff); and

(E) Cooperate with the disclosing Party in any litigation and investigation against any party deemed necessary by the disclosing Party to protect disclosing Party's rights in its Confidential Information.

Confidential

Page 29 of 66

**17.4 Rights in Confidential Information** . Nothing contained in the Parties' obligations with respect to Confidential Information will be construed as obligating a Party to disclose its Confidential Information to the other Party, or as granting to or conferring on a recipient Party, expressly or impliedly, any rights or license to the disclosing Party's Confidential Information, and any such obligation or grant will only be as provided by the other provisions of the Agreement.

**17.5 Return of Confidential Information** . Except as otherwise provided in **Section 17.12** (Return of Personally Identifiable Information) below, upon a disclosing Party's written request, the recipient Party will (A) promptly return to the disclosing Party all copies of the disclosing Party's Confidential Information in its possession or control or (B) as requested by the disclosing Party, permanently erase or destroy copies of the disclosing Party's Confidential Information in its possession or control, except, with respect to Customer, copies of Provider's Confidential Information that is contained in any Provider Software licensed to Customer Group following expiration or termination. However, subject to continued compliance with the confidentiality obligations set forth in this **Article 17** (Confidentiality and Customer Data), and applicable Laws, the recipient Party may retain (1) one copy of tangible Confidential Information of the disclosing Party in the office of its legal counsel for record purposes and (2) electronic records that contain the disclosing Party's Confidential Information and that are created by standard automatic archiving or system back-up procedures. In addition, to the extent requested by Customer at any time, Provider will (a) promptly return to Customer, in a commercially reasonable format or the format and on the media requested by Customer, all copies of Customer Data in its possession or control or (b) as requested by Customer, permanently erase or destroy copies of Customer Data in Provider's possession or control. Provider may charge for returning data in a requested format that is not commercially reasonable.

**17.6 Third-Party Information** . Provider's agreements in this **Article 17** (Confidentiality and Customer Data) are intended to be for the benefit of Customer Group and any Person that has entrusted information or physical material to a member of Customer Group in confidence. Provider further agrees that, during the Term and thereafter, Provider will not improperly use or disclose to Customer any confidential, proprietary or secret information of Provider's former clients or any Person, and Provider will not to bring any such information onto Customer's premises.

**17.7 Other Rights** . The Agreement is intended to supplement, and not to supersede, any rights Company may have in law or equity with respect to the protection of trade secrets or confidential or proprietary information.

**17.8 U.S. Defend Trade Secrets Act** . The U.S. Defend Trade Secrets Act of 2016 (DTSA) provides that an individual will not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made (A) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (C) in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. In addition, the DTSA provides that an individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (1) files any document containing the trade secret under seal and (2) does not disclose the trade secret, except pursuant to court order.

**17.9 Rights in Customer Data** .

Confidential

(A) Except for the limited license to Process Customer Data that may be included in a grant to Customer Property pursuant to **Section 16.5** (Customer Property), Provider acknowledges and agrees that, as between Provider and Customer, Customer owns all right, title, and interest in and to the Customer Data, including all Improvements thereto, and Provider has no right, title, or interest therein or thereto. To the extent Provider, a Provider Agent or Provider Staff obtains any right, title or interest to Customer Data or any Improvement thereto, Provider hereby assigns, transfers and conveys all such right, title, and interest therein and thereto as an Assigned Right pursuant to **Section 16.1** (Assigned Rights).

(B) Notwithstanding anything to the contrary in this MSA or any SOW, Provider will not (1) Process any Customer Data for generation of revenue for Provider or for any other Persons other than for the purposes of providing the Services to Customer Group and receiving the Fees from Customer under this Agreement; (2) Process any Customer Data to engage in or facilitate targeting (for marketing, advertising, or otherwise) of any individual; (3) attempt to re-identify or otherwise ascertain the identity of any individual based on de-identified Customer Data; (4) except in connection with providing the Services, display, store, decrypt, or export any Customer Data or enable any functionality that can be used to display, store, decrypt, or export any Customer Data; (5) assign, sell, resell, transfer, or otherwise dispose of any Customer Data to any other Person or permit the use of, or access to, any Customer Data for the benefit of any other Person; (6) Process or otherwise use Customer Data in any manner or for any purpose, commercial or otherwise, not expressly permitted in the Agreement; or (7) engage in any other practice or activity that may in any manner adversely affect the integrity, security, or confidentiality of Customer Data. Provider may not use the Customer Data to create anonymized or de-identified Customer Data (the “**De-Identified Data Set**”) without Customer’s prior written consent. If Customer approves Provider’s creation and use of the De-Identified Data Set, Provider may use it only for the explicit purposes as provided for in the written consent. In addition, Provider must in any event maintain the confidentiality of the Customer Data and Customer’s identity, in accordance with the Agreement.

**17.10 Protection of Customer Data and Confidential Information** . Provider represents and warrants to Customer that (A) Customer Data and Confidential Information will be logically stored separately from Provider’s property or any property or data of third parties and will not be co-mingled with Provider’s data or any data from any other client of Provider; (B) Provider will, and will cause Provider Agents to, maintain a high quality of physical, logical, and personnel security safeguards in accordance with generally accepted industry standards and all applicable Provider Laws; (C) Provider will maintain a written security program in accordance with **Section 17.11** (Information and System Security) below; (D) Provider has policies, processes and procedures designed to protect the confidentiality, integrity, and availability of the Customer Confidential Information, including Customer Data, and Systems from all threats of unauthorized access, acquisition, use, disclosure or other unauthorized Processing, whether internal or external, deliberate, or accidental; (E) Provider will review the overall implementation of security controls against regulations, best practices, policies, and standards, including the NIST Framework and NIST 800-53, and against current threats and risks on a regular basis; and (F) Provider has and will maintain and will cause Provider Agents to have and maintain the controls, policies, and associated procedures regarding data and information security set forth in **Schedule 9** (Information and System Security Requirements).

**17.11 Information and System Security** . Notwithstanding any other provision in the Agreement, Provider, its Provider Agents and Provider Staff represent and warrant to Customer that it will adhere to the data security requirements set forth in the Agreement, including this **Article 17** (Confidential Information; Customer Data), any and all Customer Policies, **Schedule 9** (Information and System Security Requirements), and **Schedule 14** (Data Privacy). Prior to performing any Services, Provider Agents and Provider Staff who may access Customer’s premises, Customer Systems, Customer Resources, and/or Confidential Information of Customer, including Customer Data, will confirm

Confidential

Page 31 of 66

in writing (electronically or in any other manner), which confirmation is auditable and sufficient to ensure that each of them is aware of and will comply with the provisions of the Agreement (including Customer Policies) concerning access protection and data/software security. Upon request by Customer, Provider will confirm that each such Person has provided such confirmation. Failure of Provider, Provider Agents or Provider Staff to comply with the provisions of the Agreement will be deemed a breach and may result, among other things, in Customer restricting the offending Provider Staff from access to Customer premises, Customer Systems, Customer Confidential Information and Customer Data, and/or immediate termination of the Agreement. Without limiting the foregoing, if Provider's failure to comply with its responsibilities under the Information and System Security requirements under this Agreement results in (A) a Security Incident involving the disclosure or improper or unauthorized Processing of Customer Data or destructive acts on Systems or (B) an actual Critical or High-Severity Security Incident, each as defined under Customer's Incident Response Plan, such non-compliance will be deemed a material breach.

**17.12 Return of Confidential Information and Customer Data** . Within thirty (30) days, Provider will return to Customer, in a mutually agreed upon format and through a secure platform of Customer's choosing, all Customer Confidential Information and Customer Data furnished, disclosed, or provided to, and/or obtained by Provider, Provider Agents or Provider Staff as result of the Agreement at the expiration or termination of the Agreement, a Statement of Work, or as otherwise requested by Customer, including to all copies stored or recorded on any medium utilized (whether available now, or in the future). In addition, within thirty (30) days of expiration or termination of the Agreement, a Statement of Work, or upon written request from Customer, except where prohibited by applicable Laws Provider will permanently delete, destroy, or erase all copies of Customer Confidential Information and Customer Data saved or stored on all media, whether for Provider's internal archival, back up, or similar purposes, and render such Customer Confidential Information and Customer Data permanently irretrievable in perpetuity as per the data eradication and media destruction requirements of Customer and provide Customer with certification of such destruction. For the avoidance of doubt, these obligations apply immediately upon expiration or termination of the Agreement or a Statement of Work notwithstanding any Termination Assistance Services.

**17.13 Notice of Adverse Impact** . If Provider becomes aware of any situation (A) that has negatively impacted or reasonably could negatively impact the maintenance of Customer's Internal Controls or compliance with Customer Policies, Process Interface Manual, or applicable Laws; (B) that has had or reasonably could have any other material adverse impact on the Services (including any delay in delivery or performance, Change in Control, or change in legal form of Provider, or infringement of third-party rights); or (C) any other act, omission, or development that would be important for Customer to be aware of in order to take precautions to prevent an adverse effect to its businesses or reputation, then Provider will promptly, and within not more than 24 hours, for any situation that has had or could have a material adverse impact on the Services, inform Customer in writing of such situation and the impact or expected impact and Provider's proposed mitigation plan. Furthermore, at Customer's reasonable request, Provider and Customer will meet to further formulate and implement Provider's proposed mitigation plan to minimize or eliminate the impact of such situation.

Confidential

Page 32 of 66



#### 17.14 Internal Controls .

(A) Provider will develop, implement, and maintain Internal Controls in order to ensure that all Projects, Services, and Deliverables are performed or provided in accordance with the Agreement and otherwise and as needed to comply with the Agreement. Without limiting the generality of the foregoing, Provider will, with respect to its environment (including all methods of transmission) as well as its access and use of the Customer Data: (1) maintain a strong internal control environment in day-to-day operations; (2) build the following basic control activities into its work processes and procedures: accountability clearly defined and understood; access is properly controlled; adequate supervision; policies, procedures, and responsibilities documented; adequate training and education; and adequate separation of duties; (3) implement periodic control self-assessments; and (4) maintain an internal audit function to monitor the processes and Provider Systems, including all methods of transmission ( e.g. , perform internal audits, track control measures, communicate status to management, drive corrective action, etc.). If Provider discovers or is notified of any risk deficiency in such Internal Controls, including control breakdowns or gaps, or potential risk deficiency in such Internal Controls, that if not corrected would create a new risk that could impact the delivery of Services or create a controls risk for Customer, then Provider will immediately notify Customer and remediate such risk or potential risk at its sole cost and expense. Provider will provide a regular, written status reports to Customer on its progress on any remediation efforts until such time as the remediation has been completed and/or tested by Customer and/or its auditors and Customer and/or its auditors have validated the remediation of such control gaps or other identified risks or potential risks. Provider acknowledges and agrees that additional or modified control and compliance requirements may be required by Customer following the Effective Date and to the extent such requirements require Changes to the Services or this Agreement, the Change Control Procedures will apply. Customer will not pay or reimburse Provider for any costs or expenses incurred by Provider in connection with its performance pursuant to this Section.

(B) Inspection and Audit Rights. Provider understands and acknowledges that Customer and/or its auditors or third-party risk management consultants will be entitled to audit, monitor and test Provider's provision of the Services and Internal Controls, and compliance with the requirements of the Agreement, at any time during term of this Agreement. Provider will provide Customer, its authorized representatives, and any such independent inspection body or as Customer may appoint, on reasonable notice, with audit access and full cooperation to verify Provider's compliance with its obligations under this Agreement and **Schedule 9** (Information and System Security Requirements) in accordance with **Section 14.1** .

(C) Customer preserves the right to perform, at its own expense, not more than twice per calendar year, technical security integrity reviews, and penetration tests and monthly security scans on Customer's Systems to ensure Provider remains compliant with this Agreement (collectively, “ **Security Assessments** ”). Company will provide seven (7) days' notice prior to penetration testing or the commencement of monthly scanning activities, and such tests will be performed by a third-party consultant upon which both Provider and Customer agree. For any security vulnerability discovered through such Security Assessment on or pertaining to Customers Systems within scope of the Services, Provider will promptly (generally within twenty-four (24) hours) work with Juniper to correct any security vulnerability, or, if correction is not feasible within twenty-four (24) hours, assist in developing a plan to remediate any discovered vulnerability within in a reasonable time and provide alternative controls to mitigate risks pending completion of remediation.

Confidential

Page 33 of 66

(D) Customer may at its election conduct, or have its auditors or third-party risk management consultants conduct, a meeting with Provider to obtain factual concurrence with control gaps or other risks or potential risks identified as a result of any audit, examination, monitoring or testing, investigation of a Security Incident or Provider notification. Provider will meet with Customer and its Authorized Representatives to discuss Customer's findings, the findings of the auditors or consultants and to develop and agree upon an appropriate and effective plan in which to respond to any control gaps or other risks identified in and Changes suggested by an audit report or otherwise that are deficiencies in Internal Controls (each, a " **Provider Remediation Plan** "). Customer may request Provider to support Customer's efforts to respond to any control gaps or other risks identified in or Changes suggested by an audit report with respect to Customer Compliance Requirements (each, a " **Customer Remediation Plan** ") (the Customer Remediation Plan together with the Provider Remediation Plan are the " **Remediation Plan** "). Provider will, in accordance with the agreed timeline specified in the applicable Remediation Plan, take all steps necessary, (i) at its cost and expense, to perform the activities set forth in the Provider Remediation Plan(s), and (ii) at Customer's cost and expense, to perform the activities set forth in the Customer Remediation Plan(s); *provided, however* , that if the Customer Remediation Plan is only intended to correct risks resulting from a failure of Provider's Internal Controls or caused by Provider's unauthorized acts, Service failures or omissions, or a Security Incident (in which case, **Section 17.3** will govern as to allocation of cost and expense), then it will be at Provider's cost and expense, and provide all Documentation reasonably requested by Customer and/or its auditors or risk management consultants in connection with such remediation to Customer for its confirmation and/or approval. Provider will reimburse Customer for the reasonable costs and expenses actually charged to Customer by its external auditors or risk management consultants in connection with preparation of (i) each Provider Remediation Plan, and (ii) that portion of a Customer Remediation Plan that addresses and corrects risks caused by Provider's unauthorized acts, Service failures or omissions, and validating completion in accordance with such Remediation Plan pursuant to **Section 17.14(E)** below.

(E) Within [\*\*\*] Business Days after the development of a Remediation Plan, and no later than [\*\*\*] thereafter, Provider will provide a written status report to Customer on its progress on remediation efforts required pursuant to each such Remediation Plan until such time as the remediation required by such Remediation Plan has been completed and/or tested by Customer and/or its auditors or risk management consultants and Customer and/or its auditors have validated the remediation of such control gaps or other identified risks or potential risks. Provider's failure to promptly implement a Remediation Plan will be escalated to the Performance Review Board pursuant to **Schedule 5** (Governance) for immediate resolution.

## **ARTICLE 18. REPRESENTATIONS AND WARRANTIES .**

**18.1 Representations and Warranties by Customer .** Customer represents, warrants, and covenants that as of the Effective Date and during the Term:

(A) Customer is a corporation duly organized, validly existing and in good standing under the Laws of Delaware;

Confidential

Page 34 of 66

(B) Customer has all requisite power and authority to execute, deliver, and perform its obligations under the Agreement;

(C) the execution, delivery and performance of the Agreement by Customer (1) has been duly authorized by Customer and (2) will not conflict with, result in a breach of, or constitute a default under any other agreement to which Customer is a party or by which Customer is bound; and

(D) Customer is duly licensed, authorized, or qualified to do business and is in good standing in every jurisdiction in which a license, authorization, or qualification is required for receipt of Services and fulfilling its obligations under the Agreement, except where the failure to be so licensed, authorized or qualified would not have a material adverse effect on Customer's ability to fulfill its obligations under the Agreement.

**18.2 Representations and Warranties by Provider** . Provider represents and warrants that as of the Effective Date and during the Term:

(A) Provider is a corporation duly organized, validly existing and in good standing under the Laws of the State of New York;

(B) Provider has all requisite power and authority to execute, deliver and perform its obligations under the Agreement;

(C) the execution, delivery and performance of the Agreement by Provider (1) has been duly authorized by Provider and (2) will not conflict with, result in a breach of, or constitute a default under any other agreement to which Provider is a party or by which Provider is bound;

(D) Provider is duly licensed, authorized, or qualified to do business and is in good standing in every jurisdiction in which a license, authorization, or qualification is required for the provision of Services and fulfilling its obligations under the Agreement, except where the failure to be so licensed, authorized or qualified would not have a material adverse effect on Provider's ability to fulfill its obligations under the Agreement;

(E) Provider will perform the Services and develop and deliver the Work Product and Deliverables, in accordance with applicable professional standards in the outsourcing industry related to the Services;

(F) Provider will perform all of its obligations under this Agreement, including the Services, and Develop and deliver the Work Product and Deliverables in compliance with all Provider Laws;

(G) Subject to the joint verification process set forth in **Section 3.19** (Due Diligence) hereof, Provider has performed all due diligence on Customer's environment (including systems, software and personnel) necessary for Provider to determine that it can provide the Services in accordance with the Agreement;

Confidential

Page 35 of 66

(H) Provider will assign an adequate number of personnel to perform the Services, and such personnel will have appropriate levels of training, qualification and experience for the Services assigned to them. Provider will not charge for the costs of training such personnel;

(I) Provider is the owner of the Provider-Owned Software and has the authority to grant the licenses in the Provider Third-Party Software to be granted hereunder;

(J) the Provider Software, the Provider Equipment, any and all Work Product, any and all Deliverables, any and all Improvements to the Customer Software performed or provided by Provider or Provider Agents, and any and all other resources or items provided to Customer and/or Customer Group by Provider or Provider Agent do not and will not infringe, misappropriate or otherwise violate the Intellectual Property Rights or rights of privacy or publicity of any third party;

(K) Provider represents, warrants, and agrees that it will not introduce any Open Source Software into the Customer Systems without Customer's prior written consent. In the event of a breach of this Section, Provider will provide a replacement to such Open Source Software product at no extra cost and expense to Customer, and fully install and implement such replacement software product into the Customer Software without interference to Customer's information technology environment and operations.

(L) The Provider Services, Provider Software, Provider Equipment, any and all Work Product, and any and all Deliverables will comply with Customer Policies;

(M) Provider represents, warrants, and covenants that it has the information and system security controls, processes and procedures in place designed to ensure the confidentiality, integrity, and availability of Customer's Confidential Information, Customer Data, Systems as described in **Section 17.11** (Information Security) and that its information and system security program complies with **Schedule 9** (Information and System Security Requirements).

Provider further represents, warrants, and covenants that it is in compliance with and will comply with **Section 14.4(B)**.

Provider further represents, warrants, and covenants that, to the extent that Provider may be storing or Processing Personal Identification Information through or in the Provider's cloud services, Provider currently holds, and will maintain in full force and effect throughout the Term of the Agreement, as part of the Services, ISO 27018 Certification covering all public cloud services and environments in providing the Services under this Agreement. In the event that Provider receives notice or otherwise becomes aware that any of such Certification will or may be revoked at any time during the Term of the Agreement, Provider will provide prompt written notice of such condition to Customer and take prompt action to comply with the relevant standards to obtain such certification(s), at Provider's sole cost and expense;

(N) there is no claim or proceeding pending or threatened alleging that any of the Provider Software, the Provider Equipment, expected Work Product, or expected Deliverables infringes, misappropriates or otherwise violates the Intellectual Property Rights or rights of privacy or publicity of any third party;

Confidential

Page 36 of 66

(O) there is no outstanding litigation, arbitrated matter, or other dispute to which Provider is a party which, if decided unfavorably to Provider, would reasonably be expected to have a material adverse effect on Provider's ability to fulfill its obligations under the Agreement;

(P) no member of Provider Staff (1) has ever been convicted of a felony; (2) has had at any time before being assigned to Provider Staff, a civil judgment rendered against them for fraud, embezzlement, theft, forgery, bribery, falsification, or destruction of records or receiving stolen property; (3) is presently under investigation for, indicted for or otherwise charged by a Governmental Authority under criminal or civil Law with any of the offenses enumerated in clauses (1) or (2) of this paragraph; or (4) has been barred from receiving federal or state contracts or Governmental Authority contracts;

(Q) all Deliverables and Work Product delivered pursuant to the Agreement will conform in all material respects to the design specifications or other parameters contained in the relevant documents with respect to such Deliverable or Work Product and Provider will correct any non-conformance of the relevant Deliverable or Work Product (and redeliver such corrected Deliverable or Work Product) as soon as possible without charge to Customer and with no adverse impact on the performance of other Services;

(R) Provider will use commercially reasonable efforts to prevent and it will not, knowingly or negligently, cause or permit (1) the introduction into Provider Property, or Customer Property (collectively, "**Protected Systems**"), of any Viruses or any other contaminants (including codes, commands, instructions, devices, techniques, bugs, web bugs, or design flaws); (2) the unauthorized access (either internally or externally) to any Protected System; (3) permit any other means of misappropriating personal, corporate or Confidential Information or Intellectual Property Rights from any Protected System; and (4) denial-of-service (DoS) attacks or distributed denial-of-service (DDoS) attacks (subparagraphs (1) through (2) collectively, "**Cyber Attacks**"). Provider will not insert into any Protected System any code that would have the effect of a Cyber Attack. Additionally, Provider will not knowingly tamper with, compromise, or attempt to circumvent any physical, electronic or information security or audit measures employed by any member of Customer Group in the course of its business operations, and/or compromise the security of any Protected System of any member of Customer Group. In the event of a Cyber Attack, the Parties will cooperate and diligently work together to eliminate the effects of such Cyber Attack;

(S) without the consent of Customer, Provider will not insert into the Provider Systems or the Customer Systems any code that would have the effect of disabling or otherwise shutting down all or any portion of the Provider Systems, the Customer Systems or the Services;

(T) with respect to those Services of any Provider Staff that are a separately charged resource, Provider will perform such Services in the most cost-effective manner consistent with the required level of quality and performance;

(U) neither Provider nor any of its Provider Agents, nor any Provider Staff assigned to Customer's account or in a position to influence decisions with respect to the Agreement or the performance of Services, will use any Confidential Information acquired in connection with performance of its duties and responsibilities to Customer under the Agreement to knowingly or improperly obtain financial gain, advantage or benefit for Provider, any of its Provider Agents, any Provider Staff, or any member of the immediate family of any such Provider Staff, any of its Affiliates, any Provider Staff, or any member of the immediate family of any such Provider Staff; and

Confidential

Page 37 of 66

(V) Provider will maintain, at Provider's expense, all of the necessary certifications and Documentation such as Employment Eligibility Verification Form I-9s as well as all necessary insurance for its employees, including workers' compensation and unemployment insurance. With respect to subcontractors, Provider has a written agreement with each subcontractor providing that the subcontractor (1) will not be entitled to any benefits or other payments from any of Provider's customers and (2) will maintain current employment eligibility verification ( e.g. , Form I-9) and other necessary certification, Documentation and insurance for all of its employees provided under the Agreement. Provider will be solely responsible for the withholding and payment, if any, of employment taxes, benefits and workers' compensation insurance.

**18.3 DISCLAIMER .** EXCEPT AS EXPRESSLY STATED IN THE AGREEMENT, NEITHER CUSTOMER NOR PROVIDER MAKES ANY REPRESENTATIONS OR WARRANTIES AND EACH EXPLICITLY DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS, IMPLIED, WRITTEN, ORAL OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND WARRANTIES OTHERWISE ARISING FROM A COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE.

## **ARTICLE 19. TERMINATION .**

**19.1 Termination for Convenience .** At any time after the Steady State Service Date, Customer may terminate this MSA and any and all Statements of Work at any time for convenience by giving Provider at least ninety (90) days' notice of such termination, subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW. Customer may elect to partially terminate a Statement of Work at any time for convenience, including by insourcing or resourcing Services pursuant to **Section 3.2** (Non-Exclusivity of Services) (a " **Partial Termination** ") by providing at least ninety (90) days' written notice of such Partial Termination. Such Partial Termination may be either a termination of an entire Statement of Work in which case the applicable Termination Charge Amounts will be payable, or by reducing its consumption of Resource Units during the Term such that the aggregate reduction equals more than [\*\*\*]% of the aggregate base Fees for each Contract Year as of the SOW Effective Date for the applicable Statement of Work, in which case the applicable Termination Charge Amounts for the affected Statement of Work will be payable by Customer.

**19.2 Termination for Change in Control of Customer .** If there is a Change in Control of Customer, Customer may, by giving Provider at least ninety (90) days' notice of such termination, terminate the Agreement, *provided* that such notice must be given within ninety (90) days after the Change in Control occurs, subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW.

### **19.3 Termination for Change in Control of Provider**

. If there is a Change in Control of Provider, Customer may, by giving Provider at least ninety (90) days' notice of such termination, terminate the Agreement, *provided* that such notice must be given within ninety (90) days after the later of (A) the date the Change in Control occurs or (B) the date Provider provides written notice to Customer that the Change of Control has occurred, subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW.

Confidential

Page 38 of 66

**19.4 Termination by Customer for Cause** . If Provider commits a material breach of the Agreement and does not cure such breach within the Default Cure Period, then Customer may, by giving notice to Provider, terminate the Agreement or the affected SOW as of the termination date specified in the notice of termination. If such material breach is not curable, then Customer may exercise such termination right without observing a cure period. In addition, if Provider commits numerous breaches which individually are not material but which collectively have the same impact on Customer as a material breach, then Customer may terminate the Agreement or the affected SOW by written notice to Provider, effective as of the termination date specified in the notice of termination.

**19.5 Termination by Customer for Breach of Warranties by Provider**

. If Provider breaches any of the warranties in **Section 18.2** (Representations and Warranties by Provider), and such breach rises to the level of a material breach of the Agreement Customer may terminate this MSA and any and all Statement of Work if such breach is not cured within the Default Cure Period and without any further liability to Provider subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW. If such material breach is not curable, then Customer may exercise such termination right without observing a cure period.

**19.6 Service Level Termination Event**

. If a Service Level Termination Event occurs, Customer may terminate the Agreement by written notice to Provider effective as of the date specified in such notice, subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW.

**19.7 Termination by Provider for Cause** . If Customer fails to make undisputed payments due to Provider under a Statement of Work or for disputed amounts Customer fails to comply with **Section 12.3** (Disputed Fees and Right to Offset) and does not cure such default within the Default Cure Period, then Provider may, by giving notice to Customer, terminate that Statement of Work as of the termination date specified in the notice of termination (which will thirty (30) days after the expiration of the Default Cure Period provided that Provider has escalated the matter for dispute resolution to the Executive Review Board pursuant to **Schedule 5** (Governance) and such matter has been discussed by the Executive Review Board) unless Customer has cured by the date specified in such notice. Customer will pay any Termination Charge Amounts set forth in the applicable SOW.

**19.8 Termination for Failure to Transition**

. If the Transition under a Statement of Work is not completed or delivered by the applicable completion date specified in the Transition Plan as a result of Provider's failure to perform the Transition Services in accordance with such Transition Plan and Provider does not cure such failure within thirty (30) days after the specified completion date, Customer may terminate the Agreement or the affected Services by notice of termination to Provider effective upon such notice or on a later date specified in the termination notice.

**19.9 Termination for Failure to Transform**

. If the Transformation under a Statement of Work is not completed or delivered by the applicable completion date specified in the Transformation Plan as a result of Provider's failure to perform the Transformation Services in accordance with such Transformation Plan and Provider does not cure such failure within thirty (30) days after the specified completion date, Customer may terminate the Agreement or the affected Services by notice of termination to

Confidential

Provider effective upon such notice or on a later date specified in the termination notice, subject to Customer's payment of any Termination Charge Amounts set forth in the applicable SOW.

**19.10 Other Terminations** . In addition to the provisions of this **Article 19** (Termination), the Agreement or the applicable portion of the Services under the Agreement may be terminated as provided in **Section 3.10** (Customer Systems), **Section 3.23** (Rejection Process), **Section 10.1** (Disaster Recovery Plan), **Section 10.3** (Alternate Source), **Section 12.5** (Extraordinary Events), **Section 12.6(E)** (Benchmarking Arrangement), **Section 17.11** (Information and System Security), **Section 24.2** (Changes in Law), **Section 24.3** (Ethical Practices), and **Section 24.4(C)** (Export Controls).

**19.11 Cumulative Rights** . Rights of termination under this **Article 19** (Termination) are cumulative. Circumstances that do not entitle a Party to terminate the Agreement under one Section of this **Article 19** (Termination) may nonetheless entitle the Party to terminate under another Section of this **Article 19** (Termination) ( e.g. , a Service Level default may not be a Service Level Termination Event but may, depending on the facts, still be a material breach). Any right for Customer to terminate the Agreement means the right to terminate the Agreement, in whole or in part, including the portion of Services affected by a breach, Services in a given geographic region, or Services under one or more Statements of Work.

**19.12 Termination Effectiveness** . Where the Agreement provides for immediate termination or termination after a specified notice period, the Agreement will cease to be effective at the specified time or after the specified notice period only if Customer has not elected to receive Termination Assistance Services under **Article 20** (Termination Assistance). If Customer has elected to receive Termination Assistance Services, the Agreement will remain in effect and Customer will continue to pay for Services received until the end of the applicable Termination Assistance Period, notwithstanding the reason for termination.

## **ARTICLE 20. TERMINATION ASSISTANCE .**

### **20.1 Termination Assistance Services .**

(A) Termination Assistance Services are as described on **Schedule 4** (Termination Assistance). In the event Customer notifies Provider of its intent to terminate this Agreement or a Statement of Work, then within [\*\*\*] days after receipt of such notice Provider will provide to Customer for its approval a plan in writing for the disengagement and transfer of the Services upon the expiration, termination, insourcing, or resourcing of Services under a Statement of Work (each a “ **Disengagement Plan** ”). Customer will review Provider's Disengagement Plan and may request Changes. The Parties will negotiate in good faith and consistent with the SOW regarding any such requested Changes and will work to promptly finalize the Disengagement Plan. Provider will ensure that each Disengagement Plan:

(1) specifies Key Personnel and other resources that will be used to perform the Termination Assistance Services;

(2) provides the billing rates for all levels of Provider Staff (as a rate per day as man day rate) and estimated hours per Provider Staff at each billing rate required to provide the Termination Assistance Services;

Confidential

Page 40 of 66



(3) specifies substantially all things necessary to perform the Termination Assistance Services as efficiently as possible; and

(4) sets out a timetable and process for Termination Assistance Services that will enable Provider to complete disengagement in compliance with paragraph (D) of this **Section 20.1** (Termination Assistance Services) and within the Termination Assistance Period.

(B) Provider will update each Disengagement Plan if required during the Termination Assistance Period for any Changes to the Services under the applicable Statement of Work and submit such updates to Customer in writing for approval. Upon Customer approval, such updates will be incorporated into the applicable Disengagement Plan.

(C) Upon the expiration or termination of a Statement of Work or the insourcing or resourcing of any portion of the Services hereunder, Provider will provide Termination Assistance Services in accordance with the Disengagement Plan at Customer's request. Termination Assistance Services constituting continuation of Services will be performed at the Fees then applicable under a Statement of Work. Other Termination Assistance Services will be provided at the applicable Fees set forth in a Statement of Work, except to the extent that Provider Staff then providing the Services and other resources included in the Fees paid under the preceding sentence can be used to provide such Termination Assistance Services in compliance with paragraph (D) of this **Section 20.1** (Termination Assistance Services).

(D) The quality and level of performance of the Services continued during the Termination Assistance Period will not be degraded as compared to the quality and level of performance of such Services before the Termination Assistance Period. After the expiration of the Termination Assistance Period, Provider will (1) answer questions from Customer regarding the terminated, insourced, or resourced Services on an "as needed" basis at Provider's billing rates for all levels of Provider Staff (as a rate per day as man day rate) as described in the applicable Disengagement Plan and (2) deliver to Customer any remaining Customer-owned reports, Documentation, materials, Customer Data, Work Product, and Deliverables relating to the terminated, insourced, or resourced Services still in Provider's possession.

**20.2 Exit Rights** . On the expiration or termination of each Statement of Work, including the completion of all Termination Assistance Services under the Statement of Work (the "**End Date**" of the Statement of Work):

(A) The rights granted to Provider and Provider Agents as to that Statement of Work by **Section 16.5** (Customer Property) will immediately terminate and Provider will, and will cause Provider Agents, to (1) deliver to Customer, at no cost to Customer, a current copy of all Customer Software used in performing that Statement of Work in the form in use as of the End Date and (2) destroy or permanently erase all other copies in Provider's or Provider Agents' possession of all Customer Property used in performing that Statement of Work. Upon Customer's request, Provider will certify to Customer that all such copies have been destroyed or permanently erased.

Confidential

Page 41 of 66

(B) Provider will deliver to Customer one copy of all Provider Property licensed to Customer under that Statement of Work following such expiration or termination, each in the form in use as of the End Date.

(C) Provider will deliver to Customer copies of all Work Product prepared under that Statement of Work, in the form in use as of the End Date.

**20.3 Termination Assistance Upon Insourcing or Resourcing** . Where there is an insourcing or resourcing pursuant to **Section 3.2** (Non-Exclusivity of Services) or where there is otherwise a partial termination of a Statement of Work, **Section 20.2** (Exit Rights) applies only to those resources and other items referred to in **Section 20.2** (Exit Rights) that are associated with the Services to be insourced or resourced or partially terminated (“ **Affected Resources** ”). As soon as practicable after Customer exercises its rights to insource or resource or partially terminate, Provider will notify Customer if any such Affected Resources are necessary for the provision of the remaining Services and cannot be duplicated, and Customer and Provider will agree on an appropriate allocation of such Affected Resources.

## **ARTICLE 21. INDEMNITIES .**

**21.1 Indemnities by Customer** . Customer will defend and indemnify Provider against any third party Claims and all Losses payable to such third parties resulting from, arising out of, or relating to any and all such third party Claims:

(A) relating to Customer’s disclosure, misuse, or misappropriation of Provider Confidential Information in violation of **Article 17** (Confidentiality and Customer Data);

(B) relating to any amounts assessed against Provider that are the obligation of Customer pursuant to **Article 13** (Taxes);

(C) relating to a breach by Customer of its obligations under Managed Contracts;

(D) relating to a breach of any of the representations and warranties in **Section 18.1(a), (b), (c), and (d)** (Representations and Warranties by Customer);

(E) that Customer Property, the Customer Equipment, or any other resources or items provided by Customer to Provider or Provider’s Agents infringe, misappropriate or otherwise violate the Intellectual Property Rights of any third party, *provided* Customer will not be responsible to the extent such Claims would not have arisen but for (1) use in contravention of the Documentation or license granted to Provider in the Agreement; (2) failure by Provider to use new or corrected versions provided by Customer; (3) Provider’s unauthorized modification of Customer’s non-infringing Customer Property, Customer Equipment, or any other resources or items provided by Customer to Provider or Provider’s Agents; or (4) combination of the Customer Property, Customer Equipment, or any other resources or items provided by Customer to Provider or Provider’s Agents with products or systems other than those provided by, or authorized by, Customer or otherwise contemplated by this Agreement; or

Confidential

Page 42 of 66

(F) relating to death, personal injury, or tangible personal property loss or damage directly resulting from Customer's or Customer Agents' acts or omissions.

[\*\*\*]

**21.2 Indemnities by Provider** . Provider will defend and indemnify Customer Group against any third-party Claims and all Losses payable to such third parties resulting from, arising out of or relating to, any and all such third party Claims:

(A) that the Services, the Provider Property, the Provider Equipment, any Assigned Rights, or any other resources or items provided to Customer by Provider or Provider Agents infringe, misappropriate or otherwise violate the Intellectual Property Rights or rights of publicity of any third party, *provided* Provider will not be responsible to the extent such Claims would not have arisen but for (1) use in contravention of the Documentation or license granted to Customer in the Agreement; (2) failure by Customer to use new or corrected versions provided by Provider at no additional cost; (3) Customer's unauthorized modification of Provider's non-infringing Services, Provider Property, Provider Equipment, or any other resources or items provided by Provider to Customer or Customer's Agents; or (4) combination of the Provider Property, Provider Equipment, or any other resources or items provided by Provider to Customer or Customer's Agents with products or systems other than those provided by, or authorized by, Provider or otherwise contemplated by this Agreement;

(B) relating to any duties or obligations of Provider or Provider Agents owed to a third party, including another Provider Agent, under a contract with such third party;

(C) a breach of IBM's obligations in the Agreement with respect to Managed Contracts;

(D) relating to a breach of the representations or warranties made by Provider under the following subsections of **Section 18.2** (Representations and Warranties by Provider): **18.2(A), 18.2(B), 18.2(C), 18.2(D), 18.2(I), 18.2(J), 18.2(N), or 18.2(O)** ;

(E) relating to any amounts assessed against Customer that are the obligation of Provider or a Provider Agent pursuant to **Article 13** (Taxes);

(F) relating to death, personal injury, or tangible personal property loss or damage resulting from Provider's or a Provider Agent's acts or omissions;

(G) relating to Provider's (i) unauthorized disclosure (ii) misuse or (iii) misappropriation of Customer Confidential Information in breach of Provider's or a Provider Agent's confidentiality obligations under **Article 17** (Confidentiality and Customer Data); or

(H) where Provider Personnel breach a duty of diligence arising under applicable Law which is owed to the third party bringing the Claim and where such Claim alleges Gross Negligence or Willful Misconduct directly or indirectly caused by Provider.

**21.3 Provider Obligations Upon Infringement/Misappropriation** . If the Services, the Assigned Rights, the Provider Property, the Provider Equipment, or any other resources or items provided to Customer by Provider or

Confidential

Page 43 of 66

Provider Agents becomes, or in Provider's reasonable opinion is likely to become, the subject of an infringement or misappropriation claim, in addition to indemnifying Customer in accordance with paragraph (A) of **Section 21.2** (Indemnities by Provider) and in addition to Customer's other rights (including in the case of removal under paragraph (C) of this Section), Provider will promptly take the following actions, at no charge to Customer, in the listed order of priority:

(A) promptly secure the right to continue using the item;

(B) replace or modify the item to avoid the infringement or misappropriation, only if any such replacement or modification does not degrade the performance or quality of the affected component of the Services, and Provider assumes sole responsibility for the cost of any new interfaces or integration work required as a result of the replacement or modification; or

(C) remove the item from the Services, in which case, the Fees will be equitably adjusted to reflect such removal and any reduction in value of the remaining Services caused by the removal.

**21.4 Indemnification Procedures** . If any third-party Claim is commenced against a Party entitled to indemnification under **Section 21.1** (Indemnities by Customer), **Section 21.2** (Indemnities by Provider), **Section 21.3** (Provider Obligations Upon Infringement/Misappropriation) (the "**Indemnified Party**"), **Schedule 4** (Termination Assistance) or **Schedule 8** (Employment Matters), the Indemnified Party will provide the Party that is obligated to provide indemnification (the "**Indemnifying Party**") notice as promptly as practicable. The Indemnifying Party will promptly, and in no event less than [\*\*\*] days before the date on which a response to such Claim is due, assume and diligently pursue the defense and settlement of such Claim, engaging attorneys with appropriate expertise to handle and defend the same, at the Indemnifying Party's sole cost and expense. The Indemnified Party will cooperate, at the cost of the Indemnifying Party, in all reasonable respects with the Indemnifying Party and its attorneys in the investigation and defense of such Claim and of any appeal arising from the Claim. At its own cost and expense, the Indemnified Party may participate through its attorneys or otherwise in such investigation and defense of such Claim and any appeal arising therefrom. No settlement of a Claim that involves a remedy other than the payment of money by the Indemnifying Party will be entered into without the consent of the Indemnified Party. So long as the Indemnifying Party timely assumes and diligently pursues the defense of any such Claim, the Indemnifying Party will not be liable to the Indemnified Party for any legal expenses incurred thereafter by such Indemnified Party in connection with the defense of that Claim. If the Indemnifying Party fails to timely assume or ceases to diligently pursue such defense, the Indemnified Party may defend or settle the Claim in such manner as it may deem appropriate at the cost of the Indemnifying Party.

## ARTICLE 22. DAMAGES .

**22.1 Direct Damages Cap** . The aggregate liability of a Party to the other Party for all Claims and Losses related to the Agreement, whether based on an action in contract, equity, negligence, tort, or other theory, will not exceed actual direct damages equal to the greater of (a) \$[\*\*\*] or (b) [\*\*\*] charges paid or payable under the Agreement; provided that if less than [\*\*\*] have elapsed since the Steady State Service

Confidential

Page 44 of 66

Date under all of the Statements of Work executed as of the Effective Date, then [\*\*\*] times the charges paid or payable for the most recent month under all such Statements of Work.

**22.2 Consequential Damages** . EXCEPT AS OTHERWISE PROVIDED IN **SECTION 22.3** (EXCEPTIONS), NEITHER CUSTOMER NOR PROVIDER WILL BE LIABLE FOR NOR WILL THE MEASURE OF LOSSES UNDER THE AGREEMENT INCLUDE ANY CONSEQUENTIAL, INDIRECT, PUNITIVE, SPECIAL, OR INCIDENTAL LOSSES ARISING OUT OF OR RELATING TO ITS PERFORMANCE OR FAILURE TO PERFORM UNDER THE AGREEMENT, INCLUDING LOST PROFITS, LOST REVENUE, LOST GOODWILL. FOR CLARITY, THIS SECTION DOES NOT PRECLUDE RECOVERY OF AMOUNTS PAYABLE BY A PARTY UNDER **ARTICLE 21** (INDEMNITIES), DAMAGES ACKNOWLEDGED TO BE DIRECT DAMAGES IN **SECTION 22.4** (ACKNOWLEDGED DIRECT DAMAGES) OR AMOUNTS IDENTIFIED AS PAYABLE UNDER **SECTION 22.5** (DATA BREACH DAMAGES).

**22.3 Exceptions** . THE LIMITATIONS AND EXCLUSION OF LIABILITY SET FORTH IN **SECTION 22.1** (DIRECT DAMAGES CAP), **SECTION 22.2** (CONSEQUENTIAL DAMAGES) AND **SECTION 22.5** (DATA BREACH DAMAGES) DO NOT APPLY TO THE FOLLOWING:

(A) LOSSES ARISING OUT OF OR RELATING TO THE FAILURE OF (1) CUSTOMER TO PAY FEES DUE UNDER THE AGREEMENT OR (2) PROVIDER TO ISSUE CREDITS (INCLUDING PERFORMANCE CREDITS OR DELIVERABLE CREDITS) OR OTHERWISE MAKE PAYMENTS DUE UNDER THE AGREEMENT;

(B) INDEMNIFICATION OBLIGATIONS UNDER **ARTICLE 21** (INDEMNITIES), INCLUDING BREACHES OF **ARTICLE 21** (INDEMNITIES);

(C) LOSSES ARISING OUT OF OR RELATING TO EITHER PARTY'S DISCLOSURE, MISUSE, OR MISAPPROPRIATION OF THE OTHER PARTY'S CONFIDENTIAL INFORMATION IN BREACH OF **ARTICLE 17** (CONFIDENTIALITY AND CUSTOMER DATA);

(D) LOSSES ARISING OUT OF OR RELATING TO PERSONAL INJURY OR DEATH OR DAMAGES TO TANGIBLE PERSONAL PROPERTY;

(E) LOSSES ARISING OUT OF OR RELATING TO A PARTY'S INFRINGEMENT, MISUSE OR MISAPPROPRIATION OF THE OTHER PARTY'S INTELLECTUAL PROPERTY RIGHTS;

(F) LOSSES ARISING OUT OF OR RELATING TO EITHER PARTY'S GROSS NEGLIGENCE, FOR WHICH JUNIPER WILL BE ENTITLED TO RECOVER UNCAPPED DIRECT AND CONSEQUENTIAL DAMAGES OTHER THAN LOST PROFIT, LOST REVENUE, LOST GOODWILL, AND LOST MARKET CAP;

(G) LOSSES ARISING OUT OF OR RELATING TO EITHER PARTY'S WILLFUL MISCONDUCT, FOR WHICH JUNIPER WILL BE ENTITLED TO RECOVER UNCAPPED DIRECT AND CONSEQUENTIAL DAMAGES OTHER THAN LOST PROFIT, LOST REVENUE, LOST GOODWILL, AND LOST MARKET CAP;

Confidential

Page 45 of 66

(H) WITH RESPECT TO PROVIDER, REGULATORY FINES ARISING OUT OF OR RELATING TO PROVIDER'S FAILURE TO COMPLY WITH PROVIDER LAW (OTHER THAN FAILURES CAUSED BY CUSTOMER'S FAILURE TO COMPLY WITH CUSTOMER LAW), INCLUDING (i) LOSSES AND REGULATORY FINES ARISING UNDER ARTICLE 83 OF GDPR OR (ii) TO THE EXTENT PROVIDER'S FAILURE TO COMPLY WITH PROVIDER LAW CAUSED CUSTOMER'S FAILURE TO COMPLY WITH CUSTOMER LAW;

(I) WITH RESPECT TO CUSTOMER, REGULATORY FINES ARISING OUT OF OR RELATING TO CUSTOMER'S FAILURE TO COMPLY WITH CUSTOMER LAW (OTHER THAN FAILURES CAUSED BY PROVIDER'S FAILURE TO COMPLY WITH PROVIDER LAW), INCLUDING (i) LOSSES AND REGULATORY FINES ARISING UNDER ARTICLE 83 OF GDPR OR (ii) TO THE EXTENT CUSTOMER'S FAILURE TO COMPLY WITH CUSTOMER LAW CAUSED PROVIDER'S FAILURE TO COMPLY WITH PROVIDER LAW; AND

(J) LOSSES ARISING OUT OF PROVIDER'S ABANDONMENT, FOR WHICH JUNIPER WILL BE ENTITLED TO RECOVER UNCAPPED DIRECT AND CONSEQUENTIAL DAMAGES OTHER THAN LOST PROFIT, LOST REVENUE, LOST GOODWILL, AND LOST MARKET CAP.

**22.4 Acknowledged Direct Damages** . The following, without limitation, will be considered direct damages and neither Party will assert that they are indirect, incidental, collateral, consequential or special damages to the extent they result from either Party's failure to perform in accordance with the Agreement and are subject to the claiming Party's duty to mitigate its damages:

(A) Overtime, straight time and direct expenses (including travel, lodging, and subsistence) incurred by Customer Personnel to remediate Provider's failure to provide the Services in accordance with the requirements of the applicable SOW);

(B) Cover damages, including the costs and expenses incurred to procure the Services, Deliverables, or corrected Services or Deliverables from an alternate source on substantially similar terms and conditions, to the extent such costs are in excess of the applicable Fees;

(C) Costs of replacing lost, stolen or damaged equipment with equipment of comparable condition and functionality;

(D) Costs of replacing commercially available software; and

(E) Overtime, straight time and direct expenses incurred by Customer to reload lost or corrupted data onto Customer Systems from available backup and archival media.

The absence of a Loss listed in this **Section 22.4** (Acknowledged Direct Damages) will not be construed or interpreted as an agreement to exclude it as a direct damage under the Agreement. For purposes of this **Article 22** (Damages), the Parties agree that for purposes of determining liability "Party" includes such Party's Affiliates, and its and their officers, directors, employees, agents, contractors, and Authorized Representatives.

Confidential

Page 46 of 66

**22.5 Data Breach Damages** . Subject to the terms of this **Section 22.5** (Data Breach Damages), the limitations set forth in **Section 22.1** (Direct Damages Cap) do not apply to (a) Losses arising out of or relating to breach by Provider of any of its data privacy or security obligations under this Agreement (including an applicable SOW), or any (b) breach by Provider of any of its obligations under this Agreement, including an applicable SOW, and such breach results in a Security Incident; *provided* that Provider's aggregate liability for all Claims and Losses under subsections (a) and (b) will not exceed [\*\*\*]. Losses recoverable pursuant to this **Section 22.5** (Data Breach Damages) include:

(A) the cost of providing notices required by applicable Law, recommended in writing by a Governmental Authority (including guidance from such Governmental Authority) or otherwise deemed necessary by Governmental Authorities and other entities with regulatory authority in connection with the data subject affected by a Security Incident or pursuant to Customer Policies, as determined by its Chief Privacy Officer or an equivalent senior executive;

(B) the cost of additional call center operations for responding to customer inquiries, including employee overtime and out-of-pocket employee expenses related to such overtime actually incurred, in connection with a Security Incident;

(C) the cost of two (2) years' (or other period as is then-currently customary in the industry, required by applicable Law or recommended by a Governmental Authority) of credit monitoring or protection services for the data subject to affected by a Security Incident;

(D) all amounts that Customer or its Affiliates is obligated to pay to Persons under applicable Law, under contract (except for indirect or consequential damages under such contract), or in connection with (1) a settlement with or a judgment, order, or decree of any court or (2) a settlement with or a judgment, order, decree, or recommendation issued by a Governmental Authority in connection with a Security Incident or a compliance breach, provided in each case Provider will approve the amounts of settlements in advance, which approval will not unreasonably withheld, conditioned or delayed;

(E) reasonable costs and expenses associated with forensic and remediation services provided by the forensics analysts or other third-party security consultants performed in connection with an Security Incident;

(F) Losses paid to third parties due to personal data breach as defined in Art. 4(12) GDPR or as defined under any other equivalent data protection Laws; and

(G) all other costs expressly set out in this Agreement that Provider is required to pay or reimburse Customer or its Affiliates as part of Security Incident under this section.

For clarity, in no event will such Losses include lost profits, lost revenue, a decrease in market capitalization, or loss of goodwill; *provided, however* , that Provider will not assert that the Losses in this **Section 22.5** (Data Breach Damages) are indirect, incidental, collateral, consequential or special damages.

**22.6 Collective Caps****22.7** . Cap amounts are not intended to be additive or allow recovery under multiple caps for the same breach or event; *however*, for a breach or event that may be characterized under two or more

Confidential

Page 47 of 66

types of claims under this Agreement, the type of claim that allows for the highest amount recoverable will control and be available to the claiming Party.

**ARTICLE 23. INSURANCE .**

**23.1 Insurance .** Provider will obtain and maintain at Provider’s expense, the following insurance coverage, which must be placed with reputable insurance carriers eligible to do business in the state or country where work is performed and having a financial strength rating of A- or better and a financial size category of VII or better:

- (A) Workers’ compensation insurance in accordance with all federal, state and local requirements, and such policy to include an alternate employer endorsement;
- (B) Employer’s liability insurance with minimum limits of \$[\*\*\*] per accident for bodily injury by accident; \$[\*\*\*] policy limit by disease; and \$[\*\*\*] for bodily injury by disease, each employee, and such policies to include alternate employer endorsements;
- (C) Commercial general liability or CGL insurance with minimum limits of \$[\*\*\*] per occurrence, \$[\*\*\*] aggregate for products and completed operations, \$[\*\*\*] for advertising and personal injury, and \$[\*\*\*] for general aggregate;
- (D) Automobile liability insurance covering use of all owned, non-owned and hired automobiles with bodily injury & property damage coverage with minimum limits of \$[\*\*\*];
- (E) Umbrella Liability insurance with minimum limits of \$[\*\*\*] and with terms and conditions at least as broad as the underlying insurance policies, with respect to general liability, automobile liability and employers’ liability;
- (F) Professional liability insurance (errors and omissions) with the minimum limit of \$[\*\*\*] for each occurrence;
- (G) Crime insurance with the minimum limit of \$[\*\*\*] for each loss; and
- (H) Cyber liability insurance, including network business interruption, data protection, information security, or privacy breach, (including coverage for events arising from ransomware, extortion, business email compromise, general fraud and EU General Data Protection Regulation requirements), which may be included as part of Provider’s professional errors and omissions liability policy with minimum limits of \$[\*\*\*] for each occurrence.

Any insurance limits in (B) – (H) of this schedule do not limit Provider’s liability or indemnification obligations set forth in the Agreement. For avoidance of doubt, Provider may be liable for Losses in excess of an insurance limit.

**23.2 Period of Insurance .** Provider will take out and maintain the insurance policies referred to in **Section 23.1** (Insurance) for the following periods:

- (A) for the Term, in the case of insurance policies that are on an “occurrence” basis (that is, policies that cover any liability arising during the term of the policy); and

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(B) for the Term and [\*\*\*] years thereafter, in the case of insurance policies that are on a “claims made” basis (that is, policies that cover claims made during the term of the policy) as long as such coverage remains available in the marketplace.

**23.3 Insurance Documentation** . Provider will not begin performing the Services until it has obtained all the insurance coverage required under **Section 23.1** (Insurance) and furnished satisfactory certificates of insurance to Customer. No later than ten (10) days prior to the expiration dates shown on such certificates of insurance, Provider will provide certificates to Customer evidencing that the insurance required by the Agreement will remain in effect after the expiration dates listed in the initial certificates. Provider will also furnish to Customer certificates of insurance or other appropriate Documentation naming Customer as an additional insured on all policies listed in paragraphs (C) and (D) of **Section 23.1** (Insurance) for liabilities assumed in the Agreement. Customer will be named a loss payee for employers’ liability and crime insurance. Any cancellation or material alteration of coverage will not relieve Provider of its continuing obligation to maintain insurance coverage in accordance with this **Article 23** (Insurance), and notice of such cancellation or material alteration of coverage will be provided to Customer [\*\*\*] days prior to cancellation or material alteration of coverage. Provider will secure a waiver of subrogation in favor of Customer and Customer Agents from the company carrying the insurance specified in paragraphs (C) and (D) of **Section 23.1** (Insurance), and the required certificates of insurance will indicate that waiver of subrogation. Provider will ensure that Provider Agents used in the performance of the Services will maintain insurance coverages of the types and in the amounts customary for businesses of similar size and in accordance with industry practice appropriate for the services provided or work being performed by such Provider Agents. Provider’s insurance specified in paragraphs (C) and (D) of **Section 23.1** (Insurance) will be primary and Customer’s insurance will be non-contributory with respect thereto. All deductibles, self-insured retentions and self-insurance carried by Provider under its insurance program are the sole responsibility of Provider and will not be borne by Customer.

#### **ARTICLE 24. COMPLIANCE WITH LAWS** .

**24.1 Compliance** . Each Party will perform its obligations under the Agreement in a manner that complies with all Laws that apply to that Party’s business. Without limiting the foregoing, Provider will comply with Laws that apply to Provider in addition to Laws that apply to Provider’s performance of the Services including Laws requiring the procurement of inspections, certificates, and approvals needed to perform the Services; Laws regarding healthcare, workplace safety, insurance, data protection, and privacy; import and export Laws; and the U.S. Foreign Corrupt Practices Act and similar anti-corruption Laws in non-U.S. jurisdictions (collectively, “**Provider Laws**”).

**24.2 Changes in Law** . Provider and Customer will work together to identify the effect of changes in Laws on the provision and receipt of the Services and will promptly discuss the Changes to the Services, if any, required to comply with all Laws.

(A) If a change to the Services is required for Provider to comply with a change in Provider Laws, the change will be implemented at Provider’s sole expense and will not impact the Fees paid by Customer under the Agreement.

Confidential

Page 49 of 66

(B) If a change to the Services is required for Provider to comply with a change in any Laws other than Provider Laws and Provider can reasonably demonstrate that the change will materially increase Provider's costs, Customer will by written notice to Provider either:

(1) direct Provider to implement the required change to the Services, in which case Customer will pay any additional Fees that may be determined to be payable under the Change Control Procedure, or

(2) if such a change in Laws will cause an increase in the annual Fees payable under the affected Statement of Work by more than [\*\*\*] percent ([\*\*\*]%), then Customer will have the option to terminate the portion of the Services affected by the change in Law subject only to Customer's payment of any applicable Termination Charge Amounts set out in the Fees Exhibit to a Statement of Work in an amount proportionate to the Services terminated.

### 24.3 Ethical Practices .

(A) Provider acknowledges that certain Laws of the United States (including the Foreign Corrupt Practices Act ("FCPA")), Laws of other countries (including the UK Bribery Act 2010), anti-corruption Laws of local jurisdictions and any Laws intended to implement the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, signed in Paris on December 17, 1997 ("OECD Convention") (collectively, "Anti-Corruption Laws") may result in the imposition of sanctions on Customer or a member of Customer Group in the event that, directly or indirectly, offers, promises, or payments are made to a Public Official for the purpose of influencing actions favorable to Customer. Therefore, in carrying out Provider responsibilities and obligations under the Agreement, Provider, Provider Agents, and Provider Staff, and any and all principals, owners, officers, and directors of Provider and Provider Agents, will not, directly or indirectly: (1) pay, offer or promise to pay, or authorize the payment of, any monies or anything of value to any Public Official for the purpose of inducing action or non-action or influencing action by the Public Official, or securing an improper advantage, to assist in obtaining or retaining business for or with, or directing business to, any Person; or (2) pay, offer or promise to pay, or authorize the payment of, any monies or anything of value to any Person if the payer, offeror, or promisor knows or has reason to know that any part of what has been or is to be paid will be paid, offered, or promised to a Public Official for the purpose of inducing action or non-action or influencing action by the Public Official, or securing an improper advantage, to assist in obtaining or retaining business for or with, or directing business to, any Person.

(B) Provider will forego all corrupt activity and other unethical practices, including activity forbidden by Anti-Corruption Laws. In no event will either Party be obligated under the Agreement to take any action or omit to take any action that such Party believes, in good faith, would cause it to be in violation of any applicable Law, including any Anti-Corruption Law. Customer does not make any special payments (e.g., bribes) whatsoever, in cash or in kind, either directly or indirectly to any Person with a view to influencing the decision of such Person in order to obtain any improper benefit or advantage whatsoever.

(C) Provider will ensure that all documents, books, and records, including invoices, vouchers, financial settlements, billings, and reports submitted by Provider to Customer accurately reflect the facts about the activities and transactions to which they pertain, and Provider represents that with respect to any further recording or reporting made by Provider for whatever purpose, Customer may rely upon all such documents, books, and records and the data therein as being complete and accurate.

Confidential

Page 50 of 66

(D) Provider will furnish to Customer, by affidavit or other reasonable means from time to time at Customer's request, and to the reasonable satisfaction of Customer, assurances that the appointment of Provider hereunder, its activities under the Agreement, and the payment to Provider of any monies or consideration contemplated hereunder are proper and lawful under applicable Laws, including Anti-Corruption Laws. Provider further represents no part of any monies or consideration paid hereunder will accrue for the benefit of any such Public Official. Provider will conduct at least annual anti-corruption training for all Provider Staff. Provider also will make all Provider Staff conducting activities on behalf of Customer available for compliance training as requested by Customer.

(E) Provider will not engage in any Modern Slavery Practice. Provider will (1) conduct proper and detailed checks on any Person used by Provider to provide Provider Staff to perform tasks for Provider (in each case, whether on a permanent or temporary basis) to ensure that any such Person does not engage in any Modern Slavery Practice or other abuse of human rights and (2) provide Customer at Provider's cost and expense with such reasonable assistance and information as it may require from time to time to enable Customer to (a) perform any activity required by any Governmental Authority in the relevant jurisdiction for the purpose of compliance with any applicable Anti-Slavery Laws or as required by Customer; (b) prepare a slavery and human trafficking statement as required by Section 54 Modern Slavery Act and to include the matters referred to in Section 54(5) of that Act; (c) comply with any requirement to report on respect for human rights or to enable Customer to demonstrate compliance with any human rights code or policy to which it adheres or which applies to it; (d) identify any violation or non-compliance with Anti-Slavery Laws or Customer Policies relating thereto; and (e) conduct due diligence and to measure the effectiveness of the steps Customer is taking or wishes to take to ensure that Modern Slavery Practices or abuses of human rights are not taking place.

(F) Provider will promptly report to Customer any potential violations of this **Section 24.3** (Ethical Practices) or non-compliance with Anti-Corruption Laws or Anti-Slavery Laws or Customer Policies relating to such Laws or otherwise to Provider's performance under this Agreement, including, in the case of Anti-Corruption Law compliance, notifying Customer of (1) any request or demand for any financial or other advantage received by it, its Provider Agents or Provider Staff; and (2) any financial or other advantage it, its contractors or Provider Staff give or intends to give, in each case, whether directly or indirectly, in connection with the Agreement.

(G) In the event that Customer reasonably believes that a breach of any of the representations and warranties of this **Section 24.3** (Ethical Practices) has occurred Customer may terminate this MSA or any SOW, in each case, in whole or in part, upon written notice to Provider, for material breach, if uncured by the end of the Default Cure Period (or immediately if such breach is not capable of being cured), effective immediately, without further opportunity to cure and without further obligation or liability to Provider.

#### **24.4 Export Control .**

(A) Provider and Provider's performance of and actions in connection with the Agreement, will comply with all export controls, economic sanctions, customs rules, and requirements relating to unauthorized boycotts ("**Trade Controls**"), including obtaining all approvals, consents, licenses, and/or permits required for any export, import, and/or use of a good, service, software, or controlled technology by Provider, its Affiliates, or any Provider Agent (each, an "**Item**"). Similarly, in its receipt of the Services, Customer will comply with all Trade Controls. Without limitation, Provider will not, directly or indirectly, sell, provide access to, export, re-export, transfer, divert, loan, lease, cosign, or otherwise dispose of any Item (in whole or in part) to or via, or otherwise have any direct or indirect dealings under the Agreement involving: (1) any Person on a list of Persons who have been sanctioned by governmental authorities of the United States, Canada, the EU, or any government with jurisdiction over Provider or any Person otherwise subject

Confidential

Page 51 of 66

to export control restrictions of any such authority; (2) any (a) individual who is a citizen or resident of or (b) entity organized, registered, headquartered, or operating in, or owned or controlled by, a citizen or resident of any of the following jurisdictions: Crimea, Cuba, Iran, Syria, and North Korea; or (3) any Person or destination, or for any activity or end-use restricted by any applicable Laws (including those applicable to money laundering activities), in the case of each of the foregoing, without first obtaining all required Customer and Government Authorizations. Without limiting the foregoing, Provider will ensure that no Provider Staff performing the Services or supporting Provider activities under the Agreement, regardless of their location, are encompassed by any of (1) through (3) above. Should Provider become aware of any activity associated with the Agreement that involves or is related to Crimea, Cuba, Iran, Syria, or North Korea, or any other violation of the foregoing requirements, it will notify Customer immediately.

(B) Transfers and other actions relating to certain software (source code and object code), controlled technology, or both and that are in performance of otherwise connected to the Agreement may be subject to export controls (such as Export Administration Regulations (“**EAR**”)) under applicable Laws of the United States and the export or import control applicable Laws of other countries. In the event Provider becomes aware or reasonably should be aware that an export or import license is required for the export, import, or use of any Item in performance of or in connection with the Agreement, Provider will promptly notify Company. Each Party will cooperate with the other in making the appropriate filings and obtaining any licenses required for the export, import, or use of such software, controlled technology or both with the U.S. Bureau of Industry and Security or the U.S. Department of State and any cognizant foreign authority; and provide any information, certificates, or documents reasonably requested by the other Party as are required to comply with such applicable Laws. If and to the extent Provider is expressly permitted by Customer under the Agreement to send, receive or store data, Provider will meet the technical requirements for Processing controlled information in a cloud service of the EAR or any other applicable Law, including, as required, using end-to-end NIST FIPS 140-2 validated encryption (and ensuring that Provider or any third party does not have the ability to decrypt the information), or any ITAR requirements. Each Party will be solely responsible for all of its costs associated with such compliance.

(C) In the event that Customer has reason to believe that a breach of any of the representations and warranties of this **Section 24.4** (Export Control) has occurred or a concrete indication that any such breach will occur, may terminate this MSA or any SOW, in each case, in whole or in part, upon written notice to Provider, for any material breach in accordance with **Section 19.4** (Termination by Customer for Cause), without further opportunity to cure and without further obligation or liability to Provider.

**24.5 Regulatory Fines** . If a Governmental Authority notifies either Party that a Party is not in compliance with any applicable Laws, the Party notified by the Governmental Authority will promptly notify the other Party of the same in writing. Provider is responsible for any Regulatory Fines incurred by Customer arising from Provider’s noncompliance with Provider Laws. Customer is responsible for any Regulatory Fines incurred by Provider arising from Customer’s noncompliance with Customer Laws.

Confidential

Page 52 of 66

**ARTICLE 25. MISCELLANEOUS PROVISIONS .**

**25.1 Assignment .** Neither Party will assign the Agreement or otherwise transfer its rights or obligations under the Agreement, without the prior written consent of an Authorized Representative of the other Party, except that (A) Provider may assign the right to be paid to a third party without Customer's consent; *provided* that no such assignee will be a third-party beneficiary or have any rights to collect under this Agreement and any disputes or other dealings related to payments or otherwise related to the Agreement will remain between Customer and Provider, and (B) Customer may assign or otherwise transfer its rights and obligations under the Agreement to its Affiliates, including to any successor by merger, or to any entity that acquires all of substantially all of Customer's assets or business without the prior written consent of Provider. For purposes of this **Section 25.1** (Assignment), a Change in Control of Provider will be deemed an assignment requiring the prior written consent of Customer. The consent of a Party to any assignment of the Agreement does not constitute such Party's consent to further assignment. The Agreement is binding on the Parties and their successors and permitted assigns. Any assignment in contravention of this subsection is void.

**25.2 Notices .** Except as otherwise specified in the Agreement, all notices, requests, consents, approvals, agreements, authorizations, acknowledgements, waivers, and other communications required under the Agreement will be in writing addressed to the individual listed below must be (A) delivered in person, (B) sent by registered or certified mail, or (C) sent by overnight air courier, in each case properly posted and fully prepaid to the appropriate address set forth below.

In the case of Customer:                      1133 Innovation Way  
Sunnyvale, California 94089  
Attn: Chief Information Officer

In the case of Provider:                      One North Castle Drive  
Armonk, New York 10504  
  
Attn: General Manager, Global Technology  
Services (North America)

Either Party may change its address for notification purposes by giving the other Party ten (10) days' written notice of the new address and the date on which it will become effective. Notices will be considered to have been given (A) at the time of actual delivery in person, (B) three (3) Business Days after deposit in the mail as set forth above, or (C) one (1) day after delivery to an overnight air courier service.

**25.3 Counterparts .** The Agreement may be executed in any number of counterparts, each of which is deemed an original, but all of which taken together constitute one single agreement between the Parties.

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**25.4 Relationship** . The Parties intend to create an independent contractor relationship, and nothing contained in the Agreement will be construed to make the Parties partners or joint venturers, or principals, agents, or employees of each other. Provider is solely liable for all costs and obligations incurred by Provider payable to third parties in connection with Services rendered by Provider hereunder. Neither Party has any right, power, or authority, express or implied, to bind the other. Actual direction and control of the personnel actions and the terms and conditions of employment between Provider and its employees or agents will at all times be Provider's responsibility. Customer is not responsible, and Provider will remain solely responsible for, all personnel actions affecting Provider's employees and agents, including the withholding of and remittance to the proper authorities of employment taxes and other payroll deductions.

**25.5 Consents, Approvals and Requests** . Except for consents, approvals, or requests that the Agreement expressly provides are in a Party's sole discretion, (A) all consents and approvals to be given by either Party under the Agreement will be in writing and will not be unreasonably withheld or delayed and (B) each Party will make only reasonable requests under the Agreement. However, where the Agreement does not expressly require a Party's consent or approval ( e.g. , a right to terminate), this provision will not be construed as requiring such consent or approval or as limiting a Party's discretion to exercise any right in equity, at Law, or under agreement.

**25.6 Waivers** . No delay or omission by either Party to exercise any right or power it has under the Agreement will impair or be construed as a waiver of such right or power. A waiver by any Party of any breach or covenant will not be construed to be a waiver of any succeeding breach or other covenant. All waivers must be signed by a duly Authorized Representative of the Party waiving its rights.

**25.7 Remedies Cumulative** . No right or remedy herein conferred on or reserved to either Party is intended to be exclusive of any other right or remedy, and each and every right and remedy is cumulative and in addition to any other right or remedy in equity, at Law, or under contract, whether now or hereafter existing.

**25.8 Amendments** . No amendment or waiver of any provision of the Agreement and no addition of provisions to the Agreement are valid unless executed by the duly Authorized Representatives of both Parties. Neither the course of dealings between the Parties nor any trade practices will act to modify, vary, supplement, explain, or amend the Agreement.

**25.9 Survival** . Any provision of this Agreement that contemplates or governs performance or observance subsequent to termination or expiration of this Agreement will survive the expiration or termination of this Agreement for any reason and remain in effect until fulfilled and apply to respective successors and permitted assigns. Further, expiration or termination of this Agreement will not affect the rights and/or obligations of the Parties that arose prior thereto (unless otherwise provided herein) and such rights and/or obligations will survive any such expiration or termination. Except as otherwise specifically set forth in this Agreement, the Parties' obligations under **Article 1** (Definitions and Interpretation), **Article 4** (Transition), **Article 5** (Transformation), **Article 6** (Human Resources), **Section 9.7** (Services to Customer Competitors), **Article 10** (Continued Provision of Services), **Section 12.3** (Disputed Fees and Right to Offset), **Article 13** (Taxes), **Section 14.2** (Fees Audits) (for a period of 18 months), **Section 14.3** (Audits Required by Governmental Authorities), **Section 14.5** (Record Retention), **Section 14.6** (Facilities), **Section 14.7** (Response), **Article 16** (Intellectual Property Rights), **Article 17** (Confidentiality and Customer Data), **Article 18** (Representations and Warranties), **Article 19** (Termination), **Article 20** (Termination Assistance), **Article 21**

Confidential

Page 54 of 66

(Indemnities), **Article 22** (Damages), **Article 23** (Insurance), **Article 25** (Miscellaneous Provisions), and **Article 26** (Construction) will survive the expiration or termination of the Agreement.

**25.10 Third-Party Beneficiaries** . Except as expressly provided in the Agreement, neither Party intends the Agreement to benefit or create any right or cause of action in or on behalf of any Person or entity other than the Parties, unless specifically stated in the Agreement.

**25.11 Covenant of Further Assurances** . The Parties will without any additional consideration execute and deliver any further legal instruments and perform any acts that are or may become necessary to effectuate the purposes of the Agreement.

**25.12 Conflict of Interest** . Provider will not pay any salaries, commissions, or fees to any Customer Agent or to any designee of such Customer Agent, or make any payments or rebates to any Customer Agent or to any designee of such Customer Agent, or favor any Customer Agent or any designee of such Customer Agent with gifts or entertainment of significant cost or value or with services or goods sold at less than full market value. Provider's obligation to Customer under this **Section 25.12** (Conflict of Interest) is also binding on Provider Agents.

**25.13 Publicity, Branding and Co-Branding** . Provider will not use Customer's or any of its Affiliates' names, logos, proprietary indicia, service marks, trade names, or trademarks or refer to Customer or any of its Affiliates in any media release, listing on a website or social media platform, presentation, public announcement, advertising and marketing materials, customer lists, testimonials, business presentations, or public disclosure relating to the Agreement, its subject matter, or any part thereof without the prior written consent of Customer, which may be granted, withheld or conditioned in Customer's sole discretion.

**25.14 Equitable Relief** . If Provider breaches or attempts or threatens to breach its obligations related to confidentiality, intellectual property ownership, data security, or the provision of Termination Assistance Services, Customer will be entitled, without the need to post bond or prove damages, to proceed directly to court for the entry of an appropriate order compelling performance by Provider and restraining it from any further breaches or attempted or threatened breaches.

## **ARTICLE 26. CONSTRUCTION .**

**26.1 Severability** . If any provision of the Agreement is held by a court of competent jurisdiction to be contrary to Law, then the remaining provisions of the Agreement remain in effect, as long as such remaining provisions are capable of substantial performance.

**26.2 Sole and Exclusive Venue** . Each Party irrevocably agrees to bring any legal action, suit, or other proceeding in any way arising out of the Agreement solely and exclusively in the State of New York and each Party irrevocably accepts and submits to the sole and exclusive jurisdiction of such court in personam, generally and unconditionally with respect to any action, suit, or proceeding brought by it or against it by the other Party. Each Party further irrevocably consents to the service of process from such court by registered or certified mail, postage prepaid, to such Party at its address designated pursuant to **Section 25.2** (Notices) of this MSA.

Confidential

Page 55 of 66

**26.3 Section 365(n)** . All rights and licenses granted under or pursuant to the Agreement by Provider to Customer Group are and will otherwise be deemed to be for purposes of Section 365(n) of Title 11 of the United States Code, as amended from time to time (the “ **Bankruptcy Code** ”), licenses to rights to “intellectual property” as defined under the Bankruptcy Code. Customer Group, as licensee of such rights under the Agreement, retains and may fully exercise all of its rights and remedies available to it under the Bankruptcy Code including Section 365(n) thereof.

**26.4 Governing Law** . The Agreement and the rights and obligations of the Parties under the Agreement are governed by and will be construed in accordance with the Laws of the State of New York, without giving effect to the principles thereof relating to the conflicts of Laws. Except to the extent expressly required by Law, neither the United Nations Convention on Contracts for the International Sale of Goods 1980 nor any international and domestic legislation implementing such Convention applies to the Agreement. The Parties’ rights and obligations under the Agreement are solely and exclusively as set forth in the Agreement; and the Uniform Computer Information Transactions Act (“ **UCITA** ”), whether enacted in whole or in part by any state or applicable jurisdiction, regardless of how codified, does not apply to the Agreement and is hereby disclaimed. The Parties will amend the Agreement as may be necessary to comply with any mandatory disclaimer language required by UCITA in any applicable jurisdiction.

**26.5 Continued Performance** . Provider will continue performing its obligations while a dispute is being resolved except to the extent the issue in dispute precludes performance (disputes regarding Fees will not be deemed to preclude performance). If there is a breach of this obligation, Customer will be entitled to obtain injunctive relief, without the need to post bond or prove damages.

**26.6 Duly Authorized** . Each Party warrants and represents that the person whose signature appears below as signatory for it has been and is on the Effective Date hereof duly authorized by all necessary and appropriate action to execute this Agreement.

**26.7 Entire Agreement** . This Agreement constitutes the entire understanding of the Parties with respect to its subject matter and supersedes all prior or contemporaneous written and oral agreements with respect to its subject matter. Except as provided expressly herein, this Agreement will not be modified, amended, or in any way altered except by a writing executed by both of the Parties (including by such means as set forth in **Section 25.3** (Counterparts)). The Parties agree that this Agreement will not be supplemented, amended, or otherwise modified by any acknowledgement, invoice, provision, of or use of any website or software operated by or for, or provided by, Provider or otherwise by any electronic or online agreement regardless of its terms. No waiver of, breach of, or default under, any provision of this Agreement, or of any rights or obligations of any Party hereunder, (A) will be effective unless in writing and signed by the Party waiving compliance (including by such means as set forth in **Section 25.3** (Counterparts)) or (B) will be deemed a waiver of any other provision, or of any subsequent breach or default of the same provision hereof.

*[Signature Page to Follow]*

Confidential

Page 56 of 66



IN WITNESS WHEREOF, each of the Parties has caused this Master Services Agreement including all Schedules hereto to be signed and delivered by its duly authorized representatives and, in the case of Customer, the Authorized Representative of Customer, making this Agreement effective as of the Effective Date set forth above.

**Juniper Networks, Inc.**

By: \_\_\_\_\_  
Name: Brian M. Martin  
Title: SVP, General Counsel and Secretary  
Date: \_\_\_\_\_

**International Business Machines Corp.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

## SCHEDULE 1

### DEFINITIONS

Capitalized terms used in the Agreement have the meanings set forth in this **Schedule 1** or as otherwise defined in the context of the provision. Capitalized terms, acronyms, and phrases used in the outsourcing and professional services industry or other pertinent business context that are not defined will be interpreted in accordance with their then-generally understood meaning. Unless otherwise specified, all article and section references in this **Schedule 1** refer to sections of the MSA.

“**Abandonment**” means the intentional refusal by Provider to provide or perform all or substantially all of the Services (including the Termination Assistance Services) in breach of Provider’s obligations under the Agreement.

“**Acceptance Testing**” is defined in **Section 3.21** (Acceptance Testing).

“**Acquired Entity**” is defined in **Section 3.5** (Changes to Customer Group).

“**Affected Employee(s)**” means, for each Statement of Work, the Customer employees (if any) that will be employed by Provider after the SOW Effective Date as identified in that Statement of Work.

“**Affected Resources**” is defined in **Section 20.3** (Termination Assistance upon Insourcing or Resourcing).

“**Affiliate**” means business entities, which by means of ownership greater than fifty percent (50%) of the voting interest or by contract or otherwise, directly or indirectly control, are controlled by, or are under common control with a Party of the Agreement.

“**Agreement**” means (A) this Master Services Agreement between Customer and Provider, including the Schedules hereto and their Exhibits, and all Statements of Work thereto and their Exhibits, and (B) all Local Service Agreements, including Schedules thereto and their Exhibits, and all Statements of Work and their Exhibits, if any, each as may be amended from time to time.

“**Anti-Corruption Laws**” is defined in **Section 24.3** (Ethical Practices).

“**Assigned Rights**” means, excluding any underlying Provider Background Intellectual Property with respect thereto, any and all (A) Work Product, including any and all Intellectual Property Rights and other proprietary rights in, to, and under such Work Product and (B) other Intellectual Property Rights, and any and all Improvements thereto, in the case of each of subparagraphs (A) and (B), that relate, at the time of Provider’s, its Provider Agents’ or Provider Staff’s Development to, or result from Customer or its Affiliates, or its or their businesses, Intellectual Property Rights, Customer Property, products, services, data, or projects. In addition, all Improvements of Customer Property will be deemed Assigned Rights.

“**Authorized Representative**” subject to **Section 26.6** (Duly Authorized) means the individual for each Party providing any and all authorizations required under the Agreement, and restricted to: (A) in the case of Customer, its Chief Information Officer, Vendor Management Officer, or the Project Management Officer, or levels above, as may be specifically identified by Customer from time to time; and (B) in the case of Provider, its Client Partner Executive or levels above, as may be specifically identified by Provider from time to time.

“ **Authorized User** ” means any person who is determined by Customer to be authorized to have access to any of the Services.

“ **Bankruptcy Code** ” is defined in **Section 26.3** (Section 365(n)).

“ **Benchmarked Services** ” is defined in **Section 12.6(A)** (Benchmarking Arrangement).

“ **Benchmarking** ” is defined in **Section 12.6** (Benchmarking Arrangement).

“ **Benchmarking Consultant** ” is defined in **Section 12.6** (Benchmarking Arrangement).

“ **Business Day** ” means any day other than a Saturday, Sunday, or other day on which banking institutions in New York City, New York, are authorized or obligated by Law or executive order to close.

“ **Change(s)** ” means any change or modification to the Services or Deliverables or the Agreement, or any part thereof, including changes or modifications to any applicable Statement of Work and Operational Changes.

“ **Change Control Procedures** ” means the written description of the change control procedures applicable to any and all changes under the Agreement and contained in **Schedule 6** (Change Control Procedures).

“ **Change in Control** ” means a sale or transfer, whether actual or beneficial, of greater than fifty percent (50%) of the voting securities of a Party, sale of all or substantially all of the assets of a Party, licensing of all or substantially all of the Intellectual Property Rights of a Party or any similar undertaking, whether in one transaction or a series of related transactions and whether to one person or entity or a group of related persons or entities.

“ **Claim** ” any and all, whether actual or threatened or proven or not, actions, audits, arbitrations, assertions, suits, mediations, litigations, proceedings, examinations, hearings, inquiries, investigations, charges, complaints, claims (including counter or cross-claims), or demands by whosoever asserted.

“ **Comparators** ” means entities that are customers of other top tier well managed service providers providing similar services in similar circumstances.

“ **Completion Criteria** ” is defined in **Section 3.24** (Final Acceptance).

“ **Conditional Acceptance** ” is defined in **3.24** (Final Acceptance).

“ **Confidential Information** ” of a Party means all information and Documentation of that Party as the disclosing Party, whether disclosed to or accessed by the recipient Party in connection with the Agreement before, on or after the Effective Date, including (A) with respect to Customer, all Customer Data, the Customer Property, the Work Product, the Deliverables, and all information of Customer Group or its or their customers, providers, consultants, advisors, suppliers, contractors, and other third parties doing business with Customer Group, including any and all data and information received, stored, collected, derived, generated, or otherwise obtained or accessed by Provider or any Provider Agents in connection with the Agreement, performance of the Services, or if applicable, accessible through access to any of Customer’s facilities or Customer Systems, including all proprietary information including information associated with system procedures, employment practices, finances, marketing, sales, inventions, business methodologies, trade secrets, copyrightable and patentable subject matter; any system information, including information about system architecture, security controls, functionality, and the other attributes of systems, software, and other computer assets; any Personally Identifiable Information, including employee data, customer information or information provided by third parties, or

other regulated information, (B) with respect to Customer and Provider, the terms of the Agreement, and (C) with respect to Provider, the Provider Software; *provided* that, except to the extent otherwise provided by Law, the term “Confidential Information” does not include information that (1) is independently developed by the recipient Party without using the disclosing Party’s Confidential Information, as demonstrated by the recipient Party’s written records, (2) is or becomes publicly known (other than through unauthorized disclosure by the recipient Party), (3) is already known by the recipient Party at the time of disclosure, as demonstrated by the recipient Party’s written records, other than pursuant to any other agreement between the recipient Party and disclosing Party; or (4) is rightfully received by recipient Party from a third party free of any obligation of confidentiality. The relief from confidentiality obligations provided by clauses (1), (2), (3), and (4) of this definition does not apply to Personally Identifiable Information provided by or accessed from or through any member of Customer Group, disclosure of which is subject at all times to prior written consent from the Data Subject and an Authorized Representative of Customer.

“ **Consents** ” means the Customer Consents and the Provider Consents, collectively.

“ **Contract Year** ” means each twelve (12)-month period commencing, in the case of the first Contract Year, on January 1, 2019 and thereafter upon the completion of the immediately preceding Contract Year.

“ **Control** ” means, with respect to any entity, the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through the ownership of voting securities or other ownership interest, by contract or otherwise.

“ **Controlled Unclassified Information** ” or “ **CUI** ” means unclassified government information marked and classified as “CUI” for purposes of requiring special handling under United States Department of Defense (“ **DoD** ”) regulations, specifically Defense Federal Acquisition Regulation Supplement (“ **DFARS** ”), which requires contractors who Process CUI to protect it pursuant to the requirements of NIST SP 800-171.

“ **Critical Performance Indicators** ” means, (i) for each Statement of Work, those performance measurements and related performance targets identified as such in the Service Level Exhibits or elsewhere in the Agreement, failure to achieve which will result in the payment of a specified Performance Credit.

“ **Customer** ” is defined in the introductory paragraph and includes Customer Affiliates.

“ **Customer Agents** ” means the agents, business partners, subcontractors, and other representatives of Customer, other than Provider, Provider Staff, and Provider Agents.

“ **Customer Auditors** ” is defined in **Section 14.1** (Service Audits).

“ **Customer Background Intellectual Property** ” means any and all (A) Technology; (B) Intellectual Property Rights, including Intellectual Property Rights in and to Technology; and (C) Improvements of and to the items in subparagraphs (A) and (B), in the case of each of subparagraphs (A), (B), and (C), that Company or its Affiliates either (1) owned, controlled or had rights with respect to prior to the Effective Date or (2) Develop, or acquire ownership or control, or rights with respect to, outside of the Agreement but during the Term.

“ **Customer Competitor** ” means any entity that is listed in **Schedule 15** (Customer Competitors) to this Agreement.

“ **Customer Consents** ” means all licenses, consents, permits, approvals, and authorizations that are necessary to allow Provider and Provider Agents to access and (A) use Customer Resources and (B) use the services provided for the benefit of Customer under Customer’s third-party services contracts.

“ **Customer Data** ” means all data and information, including all Personally Identifiable Information and other regulated data, including Controlled Unclassified Information: (A) provided to Provider by or on behalf of any member of Customer Group, and/or other third parties or accessed, collected, derived, or otherwise obtained by Provider for Processing in connection with the Services, or, if applicable, accessible through access to any of Customer’s facilities, Customer Systems, or computer assets; (B) generated by Provider or the Services in connection with this Agreement or the performance of the Services; or (c) described in the applicable SOW.

“ **Customer Equipment** ” means any Equipment leased or owned by Customer or Affiliates of Customer, in each case that is used by or on behalf of Customer or any other member of Customer Group in connection with their businesses.

“ **Customer Group** ” means Customer, as defined in the introductory paragraph, together with its Affiliates.

“**Customer Law**” means Laws applicable to Customer’s business or otherwise regulate Customer and its receipt of the Services under this Agreement.

“ **Customer Operational Responsibilities** ” is defined in **Section 11.2** (Customer Operational Responsibilities).

“ **Customer-Owned Software** ” means the software, software tools, and related Documentation that are owned by Customer or Affiliates of Customer and used in connection with the Services.

“ **Customer Personnel** ” means Customer Group’s employees, contractors, agents, and Authorized Representatives.

“ **Customer Policies** ” means all of Customer’s policies and standards applicable to Provider’s performance of the Services or its obligations under the Agreement and disclosed in writing by Customer to Provider, including those relating to (A) conduct on Customer’s premises, including logical and physical security, safety, and disposal of hazardous materials; (B) privacy, data security, data access, and data protection; and (C) supplier conduct and compliance with applicable Laws, including **Schedule 16** (Customer Code of Conduct), in each case, as such policies and standards are issued by Customer from time to time, including all updates and amendments thereto.

“ **Customer Property** ” means any and all information, Customer Data, Confidential Information of Customer, Customer Policies, Customer Background Intellectual Property, Customer Software, Customer Systems, Work Product, and other materials provided or made available by or on behalf of any member of Customer Group, or its or their agents in connection with the Services, and all Improvements thereto.

“ **Customer Relationship Manager** ” is defined in **Section 15.2** (Appointments).

“ **Customer Remediation Plan** ” is defined in **Section 17.14** (Internal Controls).

“ **Customer Resource(s)** ” means any facilities, Equipment, furnishings, and/or fixtures supplied by any member of Customer Group for Provider use.

“ **Customer Software** ” means the Customer-Owned Software and the Customer Third-Party Software.

“ **Customer Systems** ” means the Customer Software, Customer Equipment and infrastructure, including networks, websites and databases.

“ **Customer Third-Party Software** ” means the software and software tools that are licensed, leased, or otherwise obtained by Customer or any other member of Customer Group from a third party and required to be used by Provider in connection with the provision of the Services as detailed in the applicable SOW.

“ **Cyber Attack(s)** ” is defined in **Section 18.2(R)** (Representations and Warranties by Provider).

“ **Data Subject** ” means individuals to whom Personally Identifiable Information relate.

“ **Default Cure Period** ” means [\*\*\*] days after receipt by a Party of a notice of default from the other Party.

“ **De-Identified Data Set** ” is defined in **Section 17.9** (Rights in Customer Data).

“ **Deliverable** ” means any and all material(s) or other output, in tangible or intangible form, to be delivered by Provider to Customer as specified in the applicable SOW, or otherwise arising out of the provision of the Services, including materials embodying a solution, process, report or other document, or the delivery of Equipment or other tangible items, or the completion of a defined portion of the Services.

“ **Deliverable Credit(s)** ” means credits for Provider’s failure to provide, by the time or in the manner agreed, the Deliverables specified under the Agreement or any other Deliverables for which the Parties agree to Deliverable Credits.

“ **Develop (and its derivatives)** ” means to create, develop, conceive, fix in a tangible medium of expression, or first reduce to practice, whether alone or with others.

“ **Disengagement Plan** ” is defined in **Section 20.1** (Termination Assistance Services).

“ **Divested Entity** ” is defined in **Section 3.5** (Changes to Customer Group).

“ **Documentation** ” means any and all user manuals, operating manuals, technical manuals, and other instructions, documents, designs and materials, in any form or media, that describe the specifications, functionality, installation, testing, operation, use, maintenance, support, and technical and other components, features, and requirements of any software.

“ **DTSA** ” is defined in **Section 17.8** (U.S. Defend Trade Secrets Act).

“ **EAR** ” is defined in **Section 24.4** (Export Control).

“ **Effective Date** ” is defined in **Section 2.1** (Initial Term).

“ **End Date** ” is defined in **Section 20.2** (Exit Rights).

“ **Equipment** ” any and all (A) computer equipment, including desktops, laptops, VOIP handsets and associated attachments, features, accessories, printers, peripheral devices, and other information technology, mechanical or electronic equipment, such as servers; (B) networks and telecommunications equipment, including private branch exchanges, multiplexors, modems, hubs, bridges, routers, switches, firewall, managed network devices (e.g., VPN hosts, load balancers, controllers, accelerators) and other telecommunications equipment required for the performance or receipt of the Services; (C) storage devices; (D) video conferencing and AV equipment; and (E) all related firmware and embedded software.

“ **Excused Performance Failure** ” is defined in **Section 3.20** (Excuse from Performance).

“ **Extraordinary Event** ” is defined in **Section 12.5** (Extraordinary Events).

“ **Extraordinary Event Notice** ” is defined in **Section 12.5** (Extraordinary Events).

“ **FCPA** ” is defined in **Section 24.3** (Ethical Practices).

“ **Fee Exhibit** ” is defined in **Section 12.1** (General).

“ **Fees** ” means all amounts payable by Customer to Provider pursuant to the Agreement.

“ **Force Majeure Event** ” is defined in **Section 10.2** (Force Majeure).

“ **Former Providers** ” is defined in **Section 3.14** (Cooperation with Third Parties).

“ **Governmental Approvals** ” means all licenses, consents, permits, approvals, and authorizations from any Governmental Authority or any notice to any Governmental Authority that are required by Law, including any regulatory schemes to which Customer or Provider is required to submit or voluntarily submits from time to time for the consummation of the transactions contemplated by or Services provided under the Agreement.

“ **Governmental Authority** ” means any federal, state, municipal, local, territorial, or other governmental department, regulatory authority, judicial, or administrative body, whether domestic, foreign, or international.

“**Gross Negligence**” means an act or omission (A) which when viewed objectively from the standpoint of the actor at the time of its occurrence involves an materially unreasonable degree of risk, considering the probability and magnitude of the potential harm to others, and (B) of which the actor has subjective awareness of the risk involved, but nevertheless proceeds with conscious indifference to the rights, safety, or welfare of others, in breach of a duty.

“ **Human Resource Exhibits** ” is defined in **Section 9.4** (Background Check and Work Eligibility).

“**IBM Client Partner Executive** ” is defined in **Section 15.2** (Appointments).

“ **IBM Competitor** ” means any entity that is listed in **Schedule 13** (IBM Competitors) to this Agreement.

“ **Improvement** ” means any and all customizations, enhancements, additions, modifications, extensions, updates, new versions, translations, improvements, and derivative works.

“ **Indemnified Party** ” is defined in **Section 21.4** (Indemnification Procedures).

“ **Indemnifying Party** ” is defined in **Section 21.4** (Indemnification Procedures).

“ **Initial Term** ” is defined in **Section 2.1** (Initial Term).

“ **Intellectual Property Rights** ” means any and all (A) patents, reissues of and, re-examined patents, and patent applications (wherever filed and wherever issued, including continuations, continuations-in-part, substitutes, and divisions of such applications and all priority rights resulting from such applications) now existing and hereafter filed, issued or acquired; (B) rights to inventions, Improvements, Developments, and ideas (in each case, whether patentable or unpatentable); (C) rights associated with works of authorship, including copyrights, Moral Rights, copyright applications, copyright registrations, synchronization rights, mask work rights, mask work applications, and mask work registrations; (D) trademarks, service marks, trade names, domain names, logos, trade dress, and the applications for registration and the registrations of the foregoing and rights in goodwill; (E) rights in undisclosed or confidential information (such as know-how, trade secrets and inventions (whether patentable or not)), and other similar or equivalent rights or forms of protection (whether registered or unregistered); and (F) other proprietary rights arising under statutory or common law, contract, or otherwise, and whether or not perfected and all applications (or rights to apply) for, and for renewals and extensions of, such rights as may now or in the future exist anywhere in the world, in all forms, formats, and media, in all languages, and in all versions and elements, and for the entire duration of such rights.

“ **Internal Controls** ” means operational risk management, quality assurance, testing, and internal controls, including financial and accounting controls, organizational controls, input/output controls, system modification controls, processing controls, system design controls, and access controls.

“ **ITAR** ” is defined in **Section 24.4** (Export Control).

“ **Item** ” is defined in **Section 24.4** (Export Control).

“ **Key Personnel** ” means, for all Statements of Work, the IBM Client Partner Executive, and for each Statement of Work, the other positions identified as Key Personnel positions in that Statement of Work.

“ **Law** ” means any declaration, decree, directive, legislative enactment, order, ordinance, regulation, rule, or other binding restriction of or by any Governmental Authority.

“ **Local Services Agreement** ” is defined in **Section 3.1** (Statements of Work).

“ **Losses** ” means any and all damages, fines, penalties, deficiencies, losses, liabilities (including settlements and judgments), and expenses (including interest, court costs, reasonable fees and expenses of attorneys, accountants, and other experts and professionals, or other reasonable fees and expenses of litigation or other proceedings of any claim, default, or assessment).

“ **Managed Contract(s)** ” is defined in **Section 3.15** (Managed Contracts).

“ **Modern Slavery Practice** ” means any practice that amounts to (A) slavery or servitude (each as construed in accordance with Article 4 of the Convention for the Protection of Human Rights and Fundamental Freedoms of 4 November 1950, as amended); (B) forced or compulsory labor (as “labour” is defined by the International Labour Organisation’s Forced Labour Convention 1930 (No. 29) and Protocol); (C) human trafficking; or (D) the arrangement or facilitation of the travel of another person with a view to that person being exploited.



“ **Moral Rights** ” is defined in **Section 16.2** (Moral Rights).

“ **MSA** ” means the body of this Master Services Agreement.

“ **New Entity** ” means an Acquired Entity or a Divested Entity.

“ **New Services** ” is defined in paragraph (B) of **Section 3.1** (Statements of Work).

“ **Non-Provider Failure** ” is defined in **Section 3.20** (Excuse from Performance).

“ **OECD Convention** ” is defined in **Section 24.3** (Ethical Practices).

“ **Open Source Software** ” means any and all software components that are subject to any open-source copyright license agreement, including any GNU General Public License or GNU Library or Lesser Public License, or other obligation, restriction or license agreement that substantially conforms to the Open Source Definition as prescribed by the Open Source Initiative or otherwise may require disclosure or licensing to any other person of any source code with which such software component is used or compiled.

“ **Operational Change(s)** ” means a change or modification that is within the scope of the Services described in the applicable Statement of Work and only modifies how Provider intends to perform the Services but not the scope of what Provider is required to perform under the Agreement.

“ **Partial Termination** ” is defined in **Section 19.1** (Termination for Convenience).

“ **Parties** ” means Customer and Provider.

“ **Party** ” means either Customer or Provider.

“ **Performance Category** ” means, for each Statement of Work, a grouping of various Critical Performance Indicators designated as such in the Service Level Exhibits to the Statement of Work.

“ **Performance Category Allocation** ” means, for each Statement of Work, the portion of the Pool Percentage allocated to a particular Performance Category as set forth in the Service Levels Exhibits of the Statement of Work.

“ **Performance Credits** ” means, for each Statement of Work, the credits set forth in the Service Level Exhibits of the Statement of Work, payable for Provider’s failure to meet or exceed the Critical Performance Indicators for that Statement of Work.

“ **Performance Indicator** ” means, for each Statement of Work, those Provider performance measurements and related performance targets identified as such in the Service Level Exhibits of the Statement of Work.

“ **Person** ” means an individual, corporation, partnership, joint venture, limited liability entity, governmental authority, unincorporated organization, trust, association, or other entity.

“ **Personally Identifiable Information** ” means any and all information or data relating to or about an identified or identifiable individual, in any form, format, or media, whatsoever, that can identify, or be used in combination with any other data to identify, that individual, including, (A) information or data that may be used to locate or authenticate such individual or to access an account of such individual ( e.g. , names, addresses, telephone numbers, email addresses, government-issued identification number (or foreign equivalents) including Social Security number, driver’s license number, or state-issued identification number, dates of birth, passwords, or PINs, recordings of individuals, unique identification numbers or answers to security questions, tracking, behavioral or biometric data, and geo-location data) and (B) personal information that is subject to applicable Laws.

“ **Pool Percentage** ” means, for each Statement of Work, the percentage multiplier set forth in the Service Level Exhibits of the Statement of Work, which is distributed across various Performance Categories as Performance Category Allocations.

“ **Process** ” and its derivatives means to perform any operation or set of operations on, including to (A) obtain, have access to, collect, receive, input, upload, download, record, reproduce, merge, modify, organize, combine, log, catalog, cross-reference, manage, maintain, store, copy, alter, adapt, translate, or make other Improvements of; (B) use, process, retrieve, output, consult, transmit, share, disseminate, submit, post, transfer, distribute, or otherwise provide and make available; or (C) block, erase, disclose or destroy, or any other form of processing, including as “process” or “processing” may be defined under applicable Laws.

“ **Process Interface Manual** ” means the process and procedures manual used by Provider and approved by Customer for delivery of Services to Customer Group.

“ **Project** ” means a set of interrelated tasks and deliverables to be completed and delivered within a defined timeframe (as opposed to an ongoing service), as defined in Project Documents approved by the Parties in accordance with **Section 3.4** (Projects).

“ **Project Documents** ” means, for each Project, the documents approved by the Parties for that Project in accordance with **Schedule 5** (Governance), which documents govern Provider’s performance of the Project.

“ **Project Milestone** ” means a milestone specified in the Project Documents for a Project, including the timeframe for completion of a task and the specification of what is required to be completed within that timeframe.

“ **Protected System(s)** ” is defined in **Section 18.2(R)** (Representations and Warranties by Provider).

“ **Provider** ” is defined in the introductory paragraph.

“ **Provider Agent(s)** ” means the agents, subcontractors, and representatives of Provider and includes Affiliates of Provider to which Provider subcontracts any of the Services under the Agreement.

“ **Provider Background Intellectual Property** ” means any and all (A) Technology; (B) Intellectual Property Rights, including Intellectual Property Rights in and to Technology; and (C) Improvements of and to the items in subparagraphs (A) and (B), in the case of each of subparagraphs (A), (B), and (C), that Provider either (1) owned, controlled or had rights with respect to prior to the Effective Date or (2) Develops, or acquires ownership or control, or rights with respect to, outside of the Agreement but during the Term.

“ **Provider Consents** ” means all licenses, consents, permits, approvals, and authorizations that are necessary to allow (A) Provider and Provider Agents to use the Provider Software and any assets owned or leased by Provider, (B) Provider and Provider Agents to (1) use any third-party services retained by Provider to provide the Services during the Term, (2) grant the licenses contemplated by **Article 16** (Intellectual Property Rights), (3) assign to Customer the Work Product and Deliverables, or (4) to comply with Law applicable to provision of Services, and (C) Customer and Customer Agents to Use the Provider Third-Party Software after the expiration or termination of the Agreement, a Statement of Work or the Services, in each case, in whole or in part.

“ **Provider DR Plan** ” is defined in **Section 10.1** (Disaster Recovery Plan).

“ **Provider Equipment** ” means any Equipment leased or owned by Provider and Provider Agents that is used by Provider and Provider Agents to provide the Services.

“ **Provider Laws** ” is defined in **Section 24.1** (Compliance).

“ **Provider-Owned Software** ” means the software, software tools, and related Documentation that are owned by Provider or Affiliates of Provider (excluding Work Product and Deliverables) and used in connection with the Services or with any Provider Third-Party Software or Customer Software.

“ **Provider Property** ” means any and all Provider Background Intellectual Property, Confidential Information of Provider, Provider Systems, and other materials provided or made available by or on behalf of Provider to Customer Group or its agents in connection with the Services, and all Improvements thereto.

“ **Provider Remediation Plan** ” is defined in **Section 17.14** (Internal Controls).

“ **Provider Software** ” means the Provider-Owned Software and the Provider Third-Party Software.

“ **Provider Staff** ” means any full-time or part-time personnel of Provider or Provider Agents who provide the Services, the actions of all of whom are the responsibility of Provider.

“ **Provider Systems** ” means the Provider Software, Provider Equipment, and infrastructure, including networks, websites, and databases owned, controlled, or operated by Provider or Provider Agents and used by Provider Staff in the provision of the Services.

“ **Provider Third-Party Software** ” means the software, software tools, and related Documentation licensed, leased, or otherwise obtained by Provider from a third party (other than Affiliates of Provider) that is used in connection with the provision of the Services.

“ **Public Official** ” means any (A) officer or employee of a Governmental Authority; (B) person acting in an official capacity for or on behalf of a Governmental Authority; (C) officer or employee of a state-owned or controlled company; (D) political party; (E) official of a political party; (F) candidate for political office; (G) employee of a public international organization, such as the United Nations; or (H) an immediate family member of any of the forgoing.

“ **Regulatory Fine** ” means any and all fines, regulatory assessments, penalties, withholdings, interest, and other monetary remedies similar amounts imposed by any Governmental Authority.

“ **Remediation Plan(s)** ” is defined in **Section 17.14** (Internal Controls).

“ **Representative Sample** ” means a minimum of six (6) Comparators, and if six (6) Comparators cannot be identified, then the Parties will work together to determine a statistically relevant sample of Comparators.

“ **Restricted Parties Lists** ” is defined in **Section 9.5** (Restricted Parties Compliance).

“ **Restructuring** ” is defined in **Section 3.5** (Changes to Customer Group).

“ **Retained Processes** ” is defined in **Section 3.10** (Customer Systems).

“ **Reviewable Items** ” is defined in **Section 3.21** (Acceptance Testing).

“ **Security Assessment(s)** ” is defined in **Section 17.14(C)** (Internal Controls).

“**Security Incident** ” means any Event or series or set of Events, whether actual, attempted, or reasonably suspected, that (A) indicates an attack upon, unauthorized disclosure of, access to or Processing of, or attempt to compromise the confidentiality, integrity, availability and/or security of any or all of Systems, Confidential Information, and Customer Data; (B) compromises or reasonably expected to compromise the confidentiality, integrity, availability or security of Customer Data; or (C) leads to the accidental, unlawful or unauthorized destruction, loss, alteration, disclosure or Processing of, or access to Customer Data. For purposes of this definition, an “ **Event** ” is any observable indication that the security of a System, Service, or network may have been compromised, whether accidental or deliberate, including that an information security policy may have been violated or a safeguard may have failed.

“ **Service(s)** ” means any and all services, functions, and responsibilities, as they may evolve during the Term, to be performed by Provider under the Agreement, including the Schedules and their Exhibits to this MSA, and the Statements of Work, including the Exhibits and other attachments to such Statements of Work, as well as all Transition Services, Transformation Services, Projects, and Termination Assistance Services, and includes all services, functions and responsibilities deemed to be included in each of the above pursuant to **Section 3.1(E)** (Statements of Work).

“ **Service Level Exhibits** ” is defined in **Section 7.1** (General).

“ **Service Level Termination Event** ” is defined for each Statement of Work in the applicable Service Level Exhibits.

“ **Service Levels** ” means, for each Statement of Work, the Performance Indicators and Critical Performance Indicators that Provider must attain in providing the Services, as set forth in the Service Level Exhibits of the Statement of Work.

“ **Service Location** ” means the locations owned or controlled by Provider from which the Services are provided, as identified in each applicable Statement of Work; *provided* that those Affected Employees that are working remotely as of the Effective Date may continue to do so subject to compliance with Customer Policies.

“ **Shared Service Delivery Environment** ” means collectively, such Provider Systems, facilities, and other infrastructure components that are used by Provider Staff on shared basis to provide Services to Customer and Customer Group as well as to provide services to other Provider clients or for the benefit of Provider, its Affiliates, or third parties. By way of example, such services may include cloud computing or storage, infrastructure-as-a-service (IaaS), call center services, or other managed services provided using a Shared Service Delivery Environment.

“ **SIP** ” is defined in **Section 10.6** (Service Improvement Plan and Step-In).

“ **SOC 1 Audit** ” is defined in **Section 14.4(A)** (Provider’s Controls Audits).

“ **SOW Effective Date** ” means the effective date separately in and for each Statement of Work.

“ **SOW Term** ” means that period from the SOW Effective Date to the End Date (as defined in a SOW) including any SOW Term Extension.

“ **SOW Term Extension** ” is defined in **Section 2.2** (SOW Term Extensions).

“ **Specifications** ” means any and all business requirements ( *e.g.* , details about “what” the system does), functional requirements ( *e.g.* , how to achieve the business requirements from a functional perspective, such as technical details, processing, or specific functionality), and technical requirements ( *e.g.* , how to achieve the business requirements from a technical perspective), related to the Project, Services, including Deliverables, phases, and milestones set forth in the Agreement or an applicable SOW.

“ **Statement of Work** ” or “ **SOW** ” is defined in paragraph (A) of **Section 3.1** (Statements of Work).

“ **Steady State Services Date** ” means the date set forth in each SOW upon which Transition has been accepted by Customer for each Service within each SOW, and Services will commence.

“ **Step-In Event(s)** ” is defined separately in and for each Statement of Work.

“ **Step-In Period** ” is defined in **Section 10.6** (Service Improvement Plan and Step-In).

“ **Systems** ” means Customer Systems and Provider Systems, collectively.

“ **Technology** ” means any and all software (in object or source code), technology, tools, content, data, information, know-how, trade secrets, ideas, concepts, methodologies, instructions, specifications, Documentation, files, scripts, APIs, graphics, images, designs, processes, inventions (whether or not the subject of a patent right), invention disclosures, discoveries, formulae, hardware, schematics, diagrams, prototypes, models, samples, products, commercial embodiments, works of authorship, or other intellectual property, whether in tangible or intangible form, in all forms, formats, and media, in all languages, and in all versions and elements.

“ **Term** ” means the Initial Term and any renewal period under **Section 2.2** (Term Extensions), including the Termination Assistance Period.

“**Termination Charge Amounts**” means the wind-down expenses, Termination Fees and other amounts that may be payable ( *e.g.* , unamortized investments), as applicable, upon a termination of this Agreement or a Statement of Work, which such expenses, Termination Fees and amounts will be dependent upon the event of termination, as set out in the Fees Exhibit to the applicable Statement of Work.

“ **Termination Assistance Period** ” means a period of time designated by Customer, commencing on the date a determination is made by Customer that there will be an expiration or termination of, or an insourcing or resourcing in respect of, the Agreement and continuing for up to eighteen (18) months after such expiration, termination, insourcing, or resourcing, during which Provider will provide the Termination Assistance Services in accordance with **Section 20.1**

(Termination Assistance Services) or **Section 20.3** (Termination Assistance Upon Insourcing or Resourcing), as applicable.

“ **Termination Assistance Services** ” means, in accordance with **Schedule 4** (Termination Assistance), (A) the continuation of the Services, to the extent Customer requests such continuation during the Termination Assistance Period, (B) Provider’s cooperation with Customer or another supplier designated by Customer in the transfer of the Services to Customer or such other supplier in order to facilitate the transfer of the Services to Customer or such other supplier, and (C) any other services requested by Customer in order to facilitate the transfer of the Services to Customer or another supplier designated by Customer.

“ **Termination Fees** ” means the breakage fees payable in certain circumstances by Customer for Customer’s early termination of this Agreement or a Statement of Work, to the extent set out in and calculated pursuant to the Fees Exhibit to a Statement of Work.

“ **Trade Controls** ” is defined in **Section 24.4** (Export Control).

“ **Transformation** ” is defined in **Section 5.1** (Transformation Plan).

“ **Transformation Plan** ” is defined in **Section 5.1** (Transformation Plan).

“ **Transformation Services** ” is defined in **Section 5.1** (Transformation Plan).

“ **Transition** ” is defined in **Section 4.1** (Transition Plan).

“ **Transition Plan** ” is defined in **Section 4.1** (Transition Plan).

“ **Transition Services** ” is defined in **Section 4.1** (Transition Plan).

“ **UCITA** ” is defined in **Section 26.4** (Governing Law).

“ **Usage of Provider Property** ” means any and all Development of Work Product and/or Assigned Rights that incorporate any Provider Property or otherwise require rights to any Provider Property.

“ **Use** ” means the right to load, execute, store, transmit, display, copy, maintain, modify, enhance, create derivative works, make, and have made.

“ **Virus** ” means computer instructions that, through malicious design, (A) adversely affect the operation, security, or integrity of a computing, telecommunications, or other digital operating or Processing system or environment, including other programs, data, computer libraries, and Equipment, by altering, destroying, disrupting, or inhibiting such operation, security, or integrity; (B) without functional purpose, self-replicate without manual intervention; or (C) falsely purport to perform a useful function but which actually perform either a destructive or harmful function, or perform no useful function and utilize substantial computer, telecommunications, or memory resources.

“**Willful Misconduct**” means a willful (A) breach of a duty of care or (B) wrongdoing in disregard of a known or obvious risk, with intent to cause the harm, injury, or loss. The mere lack of due care is not Willful Misconduct.

“ **Work Product** ” means any and all: (A) Deliverables; (B) Technology, specifications, feedback, reports, Improvements to Customer Property, or other work product of any nature whatsoever (in each case, Developed or delivered by Provider, its Provider Agents or Provider Staff in connection with the Services and/or during the Term, with or without assistance from Customer); (C) Intellectual Property Rights in and to the foregoing in subparagraphs (A) and (B); and (D) Improvements of and to the items in subparagraphs (A), (B), and (C).

MA-IB-00136-2018

Schedule 1  
14

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**SCHEDULE 2**

**FORM OF STATEMENT OF WORK**

This is **Schedule 2** (Form of Statement of Work) (this “ **Schedule** ”) to the MSA by and between Juniper Networks, Inc., and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

This Statement of Work #[ ] (“ **Statement of Work** ” or “ **SOW** ”) is made as of [ ], 20[ ] (the “ **SOW Effective Date** ”), by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“ **Customer** ”), and International Business Machines Corp., a New York corporation with a principal place of business at [ ] (“ **Provider** ”) pursuant to the terms and conditions of the Master Services Agreement dated [ ], 20[ ] (the “ **MSA** ”) as amended from time to time, under which it is being issued. Capitalized terms used but not defined in this SOW have the same meanings as provided in the MSA. If a capitalized term is not defined or does not have a meaning ascribed to it in the context in which it is used, the capitalized term shall have the industry standard meaning. Customer and Provider agree to execute this SOW pursuant to the specifications and other terms set forth below. Customer and Provider are sometimes referred to herein each individually as a “ **Party** ” and collectively as the “ **Parties** ”.

WHEREAS, the Parties have contemporaneously herewith entered into the MSA;

WHEREAS, Provider is engaged in the business of outsourcing, professional and other related services to customers, submitted a proposal to and has represented itself as having extensive experience providing such outsourcing consulting and other professional services and as being experienced at helping Provider’s customers benchmark their processes and requirements against Provider’s other customers;

WHEREAS, Provider has evaluated the needs of Customer through review of documents and meetings with Customer prior to the SOW Effective Date, and has the resources and expertise to provide the Services further described in this SOW as required by Customer in the manner and on the schedule set forth in this SOW;

WHEREAS, based on Provider’s proposal and the extensive discussions between the Parties leading up to the execution of this Statement of Work, and Provider’s expertise and skills communicated to Customer by Provider, Customer wishes to engage, and will rely on, Provider to provide the Services described in this Statement of Work and Provider desires to perform such Services, all pursuant to the terms and conditions in the MSA and this SOW; and

NOW, THEREFORE, the Parties agree as follows:

This SOW adds the following Services to the MSA, as detailed in **Exhibit A** (Service Description):

Service Tower Title	Service Tower Description
[•]	[•]
[•]	[•]



This SOW comprises the terms and conditions in the following Exhibits:

- 
- **Exhibit A** (Service Description)
  - **Exhibit B** (Fees)
  - **Exhibit C** (Service Levels and Performance Credits)
  - **Exhibit D** (Critical Deliverables and Deliverable Credits)
  - **Exhibit E** (Transition)
  - **Exhibit F** (Reports)
  - **Exhibit G** (Human Resources)
  - **Exhibit H** (Provider Key Personnel)
  - **Exhibit I** (Service Locations)
  - **Exhibit J** (Customer Operational Responsibilities and Customer Resources)
  - **Exhibit K** (Satisfaction Surveys)
  - **Exhibit L** (Asset Responsibility and Ownership Matrix)
  - **Exhibit M** (SOW Specific Customer Policies)
  - **Exhibit N** (Incremental Terms and Conditions)
  - **Exhibit O** (Transformation)
  - **Exhibit P** (Projects)
- 

**[ Signatures Appear on Following Page ]**

**[ Remainder of Page Intentionally Left Blank ]**

IN WITNESS WHEREOF, each of the Parties has caused this Statement of Work to be signed and delivered by its duly authorized representatives and, in the case of Customer, the Authorized Representative of Customer, making this SOW effective as of the SOW Effective Date set forth above.

**Juniper Networks, Inc.**

By:

Name:

Title:

Date:

**International Business Machines Corp.**

By:

Name:

Title:

Date:

**STATEMENT OF WORK # [ ]**

**TERMS AND CONDITIONS**

**1. DEFINITIONS .**

Capitalized terms herein have the meanings set forth in the MSA and in this **Section 1** , unless otherwise defined in the context of the provision. If a defined term in this SOW is inconsistent with a defined term in the MSA, the defined term in this SOW will take precedence solely as such inconsistency relates to the specific Services described herein.

[LIST DEFINITIONS]

**2. SERVICES .**

**2.1 Service Description .** Provider will, subject to the terms and conditions of the MSA and this SOW, provide to Customer the Services described in **Exhibit A** (Service Description). The Services may be supplemented, enhanced, modified or replaced, in each case, in accordance with the terms of the MSA. The Parties will comply with their respective obligations set forth in **Exhibit A** (Service Description) and elsewhere in this SOW. In addition to Provider's tasks and responsibilities expressly set forth in this SOW and in **Exhibit A** (Service Description), the Services include other Provider responsibilities, roles and tasks as provided for in paragraph (D) of **Section 3.1** (Statements of Work) and elsewhere in the MSA.

**2.2 Responsibility for Services .** Customer will meet its obligations and provide the resources with respect to the Services as are specifically identified as Customer's responsibility in **Exhibit A** (Service Description) and Provider shall perform all other services, tasks and functions necessary to accomplish the Services subject to Customer's reasonable satisfaction.

**3. FEES AND INVOICING .**

**3.1 Fees .** In consideration of the Services provided to Customer under this SOW, Customer will pay to Provider the undisputed Fees set forth in **Exhibit B** (Fees). **Exhibit B** (Fees) describes in detail the methodologies for calculating the Fees (providing formula examples, where applicable), the measures of resource utilization, and the means of tracking such usage for purposes of calculating variable charges hereunder.

**3.2 Transition Fees .** Customer will pay Provider the undisputed Fees for Transition as set forth in **Exhibit B** (Fees) which may require that Provider successfully achieves the relevant milestone, meets the applicable acceptance criteria set forth in **Exhibit E** (Transition) and that milestone is approved by Customer in accordance with **Exhibit E** (Transition).

**3.3 Invoicing .** Unless otherwise set forth in **Exhibit B** (Fees), Provider shall invoice Customer for all Fees on a calendar month basis. Any and all Fees for a partial month will be prorated. All invoices must include: (A) all detail reasonably requested by Customer in a form sufficient to satisfy Customer's internal accounting and chargeback requirements (such as allocating charges between capital and expense, among locations and departments, etc.); (B) the Fees and, subject to **Section 12.2** (Expenses) of the MSA, any reimbursable expenses under Project Documents, where applicable; (C) the calculations utilized to establish the charges in such

reasonably sufficient detail to enable Customer to confirm the accuracy of the charges included in the invoice, and (D) any credits, rebates, and/or adjustments due, such as Performance Credits and Deliverable Credits. Each invoice must comply with (1) the form of invoice approved by Customer, and (2) local accounting and tax requirements. If there are any errors in invoicing during the previous month(s), Provider will (a) during the next billing cycle, provide Customer with a revised invoice report for such month(s) showing the correction in Fees, (b) upon request of Customer, provide an explanation of the underlying reasons, and (c) enclose, with the revised invoice report, any credit or debit due to Customer for the overcharges or undercharges.

**4. SERVICE LEVELS AND PERFORMANCE CREDITS .**

**4.1 Service Levels and Reporting .** Beginning on the date on which Provider assumes responsibility for the Services in accordance with the Transition Plan set forth in **Exhibit E** (Transition), and continuing throughout the Term, Provider shall perform the Services so as to meet or exceed the Service Levels in **Exhibit C** (Service Levels and Performance Credits). Provider will monitor the Service Levels and provide the Service Level reports as specified in **Exhibit C** (Service Levels and Performance Credits) and **Exhibit F** (Reports).

**4.2 Performance Credits .** If Provider does not meet the Critical Performance Indicators, Provider will pay Customer the Performance Credits specified in **Exhibit C** (Service Levels and Performance Credits) in accordance with the MSA.

**4.3 Service Level Termination Events .** For purposes of this SOW, Service Level Termination Events are as follows: [TBD].

**5. CRITICAL DELIVERABLES AND DELIVERABLE CREDITS .**

Provider will provide the Critical Deliverables specified in **Exhibit D** (Critical Deliverables and Deliverable Credits) in accordance with the timelines set forth in **Exhibit D** (Critical Deliverables and Deliverable Credits). If Provider fails to provide the Critical Deliverables in the timeframe specified, then Provider will immediately and automatically issue the Deliverable Credits to Customer in accordance with the MSA.

**6. TRANSITION .**

Provider will provide the Transition Services in accordance with the Transition Plan attached hereto as **Exhibit E** (Transition), including the time periods specified therein, as updated by the Parties as soon as reasonably practical after the SOW Effective Date but in any event, not later than [ ] days thereafter.

**7. REPORTS .**

**7.1 Monthly Reports .** In addition to the Service Level reports, Provider will provide to Customer the other monthly reports set forth in **Exhibit F** (Reports), or such other frequency as may be specified in that Exhibit.

**7.2 No Additional Fees for Reports** . Reports identified in **Exhibit F** (Reports) constitute the agreed upon reports as of the SOW Effective Date, including but not limited to any other reports as the Parties may mutually agree during the Project.

**7.3 Form of Reports** . Where requested by Customer, Provider will provide Customer with all reports specified in the MSA and **Exhibit F** (Reports) electronically and in two forms: (A) raw data captured or generated from various systems, data feeds and other data sources from which Provider generates the reports ( *e.g.*, server logs) and by Provider personnel in the course of performing the Services ( *e.g.*, manually generated record information) (collectively, the “ **Raw Data** ”); and (B) Raw Data that Provider has altered, manipulated or refined to generate reports, provide certain data views or otherwise meet its obligations under this SOW (“ **Refined Data** ”). In addition, where the tool used to generate the report allows real time (or near real time) access to the Raw Data used to generate the reports, Provider agrees to provide that real-time (or near real-time) access to Customer at no charge, or otherwise provide the relevant Raw Data used to generate the reports under this **Exhibit F** (Reports) and the MSA as soon as reasonably practicable following the request from Customer.

**8. HUMAN RESOURCE TRANSITION .**

The transfer of the Affected Employees to Provider will take place in accordance with the terms and conditions set forth in **Article 6** (Human Resources) of the MSA and in **Exhibit G** (Human Resources) herein.

**9. SATISFACTION SURVEYS .**

Provider shall conduct a satisfaction survey in accordance with the user satisfaction survey requirements set forth in **Exhibit K** (Satisfaction Surveys). Provider will conduct the satisfaction survey in a manner and cadence requested by Customer and consistent with the policies and processes provided by Customer.

**10. SERVICE LOCATIONS .**

Subject to **Section 8.1** of the MSA, Provider will only provide the Services from the Service Locations set forth in **Exhibit I** (Service Locations). Any changes to such Service Locations requires Customer’s prior written approval and will be processed following the Change Control Procedures.

**11. CUSTOMER OPERATIONAL RESPONSIBILITIES AND CUSTOMER RESOURCES .**

Customer will meet its operational responsibilities, and make available to Provider the Customer Resources, expressly set forth in **Exhibit J** (Customer Operational Responsibilities and Customer Resources).

**12. ADDITIONAL AUDIT REQUIREMENTS .**

In addition to the audits set forth in **Article 14** (Audits) in the MSA, the Parties will perform the following audits:

**[LIST ADDITIONAL AUDIT REQUIREMENTS]**

**13. PROVIDER KEY PERSONNEL.**

The Provider will provide its Key Personnel for this SOW are set forth in **Exhibit H** (Provider Key Personnel) in accordance with **Section 9.1** (Key Personnel) of the MSA.

**14. STEP-IN EVENTS.**

The Step-In Events for this SOW are as set forth below: [TBD by the Parties]

**15. SOW TERM .**

The term of this SOW shall commence on the SOW Effective Date and, unless this SOW is earlier terminated in accordance with its terms or the MSA, or extended via the Change Control Procedures, shall expire on [●] (deemed to be the “ **End Date** ” of this SOW in accordance with the MSA).

**16. ASSET RESPONSIBILITY AND OWNERSHIP MATRIX .**

Provider and Customer will have legal and financial responsibility for the third-party contracts related to the assets for which it is responsible, as specified in the Asset Responsibility and Ownership Matrix attached as **Exhibit L** (Asset Responsibility and Ownership Matrix).

**17. SOW SPECIFIC CUSTOMER POLICIES .**

Provider will comply with the policies, standards and requirements set forth in **Exhibit M** (SOW Specific Customer Policies) in performing its obligations under this SOW.

**18. INCREMENTAL TERMS AND CONDITIONS .**

The terms and conditions set forth in **Exhibit N** (Incremental Terms and Conditions) are deviations from, or additions to, the terms and conditions of the MSA. The terms and conditions in **Exhibit N** (Incremental Terms and Conditions) apply to the Services described in this SOW, and each Party’s performance of its obligations under this SOW.

**19. TRANSFORMATION .**

Provider will provide the Transformation Services in accordance with the Transformation Plan attached hereto as **Exhibit O** (Transformation).

**20. PROJECTS .**

Provider will provide the Project management and related Services and Deliverables and Customer will meet its responsibilities in accordance with **Exhibit P** (Projects) attached hereto.

\* \* \* \* \*

MA-IB-00136-2018

Schedule 2

8

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**Exhibit A**

**SERVICES DESCRIPTION**

This **Exhibit A** (Services Description) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2



**Exhibit B**

**FEES**

This **Exhibit B** (Fees) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

This **Exhibit B** (Fees) describes the methodology for calculating all of the Fees payable by Customer to Provider with respect to the Services that Provider shall deliver to the Customer as set forth in the Excel spreadsheet entitled [\_\_\_\_\_] and dated [\_\_\_\_], 20[\_\_\_\_] (the “**Fees Spreadsheet**”). The pricing provided herein/therein includes: [Interim Services, Transition Services and [●] of steady state Services pricing for the Services. In addition, the Fees Spreadsheet and this **Exhibit B** (Fees) describes the methodology for measuring and tracking the resources provided by Provider and consumed by the Customer Group for the purposes of calculating any variable charges. The Fees described in this **Exhibit B** (Fees) shall fully compensate Provider for providing the Services. Customer shall not be required to pay Provider any amounts for the Services in addition to the Fees described in this Exhibit. Rates and pricing are provided in U.S. dollars only.

1. The following Appendices are attached and incorporated by reference to this **Exhibit B** (Fee):

**[PLEASE LIST COMPLETE DESCRIPTION OF ALL CATEGORIES OF FEES RELATED TO THE SERVICES TO BE PROVIDED ( e.g., Summary of Charges, Rate Card, Transition Charges, Benchmarking, etc.)]**

**Exhibit C**

**SERVICE LEVELS AND PERFORMANCE CREDITS**

This **Exhibit C** (Service Levels and Performance Credits) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

**1.**

MA-IB-00136-2018

Schedule 2

11

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**Appendix 1**

**SERVICE LEVEL MATRIX**

**to**

**Exhibit C**

**SERVICE LEVELS AND PERFORMANCE CREDITS**

This **Appendix 1** (Service Level Matrix) to **Exhibit C** (Service Levels and Performance Credits) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

The table below outlines Provider’s performance of the Services and the Critical Performance Indicators for each of the Service Levels set forth below.

**Table 1**


**Exhibit D**

**CRITICAL DELIVERABLES AND DELIVERABLES CREDITS**

This **Exhibit D** (Critical Deliverables and Deliverables Credits) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2

13

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**Exhibit E**

**TRANSITION**

This **Exhibit E** (Transition) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

1. Provider will provide the following Transition Services:
2. During Transition, the Parties will agree upon the Project management and related Services and Deliverables for in-flight Projects to be provided pursuant to this SOW.

MA-IB-00136-2018

Schedule 2

14

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**Appendix 1**

**INTERIM TRANSITION PLAN**

**to**

**Exhibit E**

**TRANSITION**

This **Appendix 1** (Interim Transition Plan) to **Exhibit E** (Transition) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

1. Provider will provide the following interim Transition Services:



**Exhibit F**

**REPORTS**

This **Exhibit F** (Reports) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “ **MSA** ”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“ **Customer** ”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“ **Provider** ”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

**[NTD: The information provided needs to also include the Service Level reports required (discussed in this SOW, Section 4.1. above)].**

MA-IB-00136-2018

Schedule 2

17

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**Exhibit G**

**HUMAN RESOURCES**

This **Exhibit G** (Human Resources) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

**[NTD: The information provided needs to also include any Customer requirements for Provider to conduct background checks and substance abuse screenings (discussed in the MSA, Section 9.4)].**

MA-IB-00136-2018

Schedule 2  
18

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**Exhibit H**

**\*PROVIDER KEY PERSONNEL**

This **Exhibit H** (Provider Key Personnel) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

ROLE	RESOURCE NAME	FULL TIME / PART TIME	COMMITMENT HOURS / DURATION	COMMENTS

[NTD: The information provided needs to also include the Provider Relationship Manager as a full-time employee of Provider (discussed in the MSA, Section 15.2)].

**Exhibit I**

**SERVICE LOCATIONS**

This **Exhibit I** (Service Locations) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

[NTD: Refer to MSA, Section 8.1].

MA-IB-00136-2018

Schedule 2  
20

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**Exhibit J**

**CUSTOMER OPERATIONAL RESPONSIBILITIES AND CUSTOMER RESOURCES**

This **Exhibit J** (Customer Operational Responsibilities and Customer Resources) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

**[NTD: The information provided needs to also include any Customer Property that will need to be tracked and returned at the end of the SOW term, the end of the MSA or the end of the relationship (discussed in the MSA, Section 16.5)].**

MA-IB-00136-2018

Schedule 2  
21

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**Exhibit K**

**SATISFACTION SURVEYS**

This **Exhibit K** (Satisfaction Surveys) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2

22

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**Exhibit L**

**ASSET RESPONSIBILITY AND OWNERSHIP MATRIX**

This **Exhibit L** (Asset Responsibility and Ownership Matrix) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2

23

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**Exhibit M**

**SOW SPECIFIC CUSTOMER POLICIES**

This **Exhibit M** (SOW Specific Customer Policies) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2

24

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**Exhibit N**

**INCREMENTAL TERMS AND CONDITIONS**

This **Exhibit N** (Incremental Terms and Conditions) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

MA-IB-00136-2018

Schedule 2

25

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**Exhibit O**

**TRANSFORMATION**

This **Exhibit O** (Transformation) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at [\_\_\_\_] (“**Provider**”). Any capitalized term not defined herein shall have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

**[NTD: The information provided needs to include the Transformation Plan, Transformation Performance and Transformation Timing elements (discussed in the MSA, Article 5)].**

MA-IB-00136-2018

Schedule 2

26

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## EXHIBIT P

### PROJECTS

This **Exhibit P** (Projects) to this SOW is incorporated into and made part of that certain Master Services Agreement dated [\_\_\_\_], 20[\_\_\_] (the “**MSA**”), as amended from time to time, by and between Juniper Networks, Inc., a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“**Customer**”), and International Business Machines Corp., a New York corporation with a principal place of business at One New Orchard Road, Armonk, New York (“**Provider**”). Any capitalized term not defined herein will have the meaning assigned to such term in either this SOW or in **Schedule 1** (Definitions) to the MSA, as applicable.

#### 1. INTRODUCTION

**1.1** This **Exhibit P** (this “**Exhibit**”) describes the overall Project management process that will be implemented in order to support delivery of all Projects (including all in-flight Projects) under this SOW.

#### 2. PROJECT MANAGEMENT PROCESS

**2.1** The Provider Project Executive will have overall responsibility and accountability to meet agreed upon quality, cost, schedule and technical objectives of the Project.

**2.2** Provider will assign an individual to act as Project Manager and Customer will assign a Project Point of Contact who each has the authority to represent and bind Customer and Provider, respectively, for that Project and who will have specific operational roles as described below and further delineated in the Project Plan. A Project Manager or Project Point of Contact may be assigned to oversee more than one Project at a time. The Project Manager or Project Point of Contact is a role which may be assigned to an individual who has other job responsibilities and who will serve as the point of accountability for the specific Project at hand. Customer and Provider will each provide the other reasonable advance written notice of a Change to their respective Project Point of Contact or Project Manager and will discuss any objections the other has to such Change.

**2.3** Customer and Provider will develop a Project Plan as specified in Section 6 below. The terms and conditions of the Agreement will apply to all Projects, except to the extent expressly amended by the applicable Project Plan. Timeframes within which deliverables will be submitted and accepted will be mutually agreed by the Parties as necessary in the Project Plan.

#### 3. PROJECT MANAGERS

**3.1** **Provider Responsibilities** . Provider will cause the Provider Project Executive to:

- (A) be the single-point-of-contact to Customer for establishing and maintaining communications through the Customer Project Point of Contact regarding the Project;
- (B) develop the detailed Project Plan in conjunction with the Customer Project Point of Contact;
- (C) measure, track and evaluate progress against the Project Plan;

- (D) maintain files of the Project Plan and any associated documentation;
- (E) manage the Project for Provider including planning, directing, and monitoring all Project activities;
- (F) establish the Provider Project team and, in conjunction with the Customer Project Point of Contact, orient team members regarding the Project management process and the Project Plan, including individual responsibilities, deliverables, and timelines;
- (G) provide operational guidance to, manage and be accountable for the performance of Provider's employees and subcontractors assigned to the Project;
- (H) define and monitor the support resources required for the Project;
- (I) request all Changes via a Change Request;
- (J) resolve deviations from the Project Plan with the Customer Project Point of Contact
- (K) address the resolution of Project issues;
- (L) plan, schedule, conduct and participate in periodic Project planning, review and status meetings, as applicable, including review of the work products being produced;
- (M) coordinate and schedule the attendance of Provider's employees and subcontractors, as appropriate, at such periodic planning, review, and status meetings; and
- (N) provide periodic written status reports to Customer Project Point of Contact that provide information such as schedule status, technical progress, issue identification and related action plans.

**3.2 Customer Responsibilities** . Customer will cause the Customer Project Point of Contact to:

- (A) be the single-point-of-contact for the management of Customer's obligations under the Project;
- (B) serve as the interface between the Project team members and Customer's business functions, units, or Affiliates participating in the Project;
- (C) define Customer's business and technical requirements for each Project;
- (D) reasonably assist Provider in Provider's development of the detailed Project Plan and validate that the Project Plan meets Customer's business and technical requirements;
- (E) request all Changes via a Change Request;
- (F) participate in and provide reasonable support during periodic Project planning, review, and status meetings, as scheduled by Provider;

- (G) obtain and provide information, data, decisions and approvals, within the agreed time period;
- (H) coordinate and schedule the attendance of Customer employees and subcontractors, as appropriate, at planning, review, and status meetings scheduled by Provider;
- (I) assist in the resolution of Project issues and escalate within Customer's management as needed;
- (J) assist Provider in resolution of deviations from the Project Plan;
- (K) participate in periodic Project reviews, as reasonably requested by Provider; and
- (L) review the deliverables to determine if they meet the Completion Criteria set forth in the applicable Project Plan and, within the specified time frame, inform the Provider Project Executive in writing of the results of such review.

#### **4. PROJECT PLAN**

##### **4.1** A Project Plan will contain the following information:

- (A) Project Manager and Project Point of Contact
- (B) This section will identify Customer's Project Point of Contact and Provider's Project Managers including name, address, telephone number, and mobile number.
- (C) Purpose and Scope of Work
- (D) This section will provide a summary of the overall purpose of the Project and define the scope of work to be performed.
- (E) Assumptions and Dependencies
- (F) This section will describe any key assumptions or dependencies upon which the Project was based or is dependent upon for successful completion, or both.
- (G) Definitions
- (H) This section will define any terms specific to the Project.
- (I) Provider Responsibilities
- (J) This section will describe the responsibilities that Provider is required to perform in order to complete the Project.
- (K) Customer Responsibilities

- (L) This section will describe the responsibilities that Customer is required to perform in order to complete the Project.
- (M) Required Equipment and Materials
- (N) This section will list all required equipment and materials including, hardware and software, that Customer or Provider must provide in order to facilitate completion of the Project.
- (O) Deliverables
- (P) This section will provide a description of any items to be delivered by Provider under the Project.
- (Q) Estimated Exhibit
- (R) This section will provide the estimated schedule for completion of the Project, including any milestones and target dates for completion.
- (S) Completion Criteria
- (T) This section will state the criteria that Provider must meet in order to satisfy its obligations under the Project and the timelines for acceptance thereunder.
- (U) Charges
- (V) This section will specify the applicable fees, if any, for the Project (for example, included within the Annual Services Charge or performed for additional fees on a fixed price or time and materials basis) as well as the interval at which said fees will be paid to Provider by Customer.
- (W) Additional or Unique Terms and Conditions
- (X) This section will identify terms and conditions, if any, in addition to or different from the terms in the Agreement or SOW.

## 5. PROJECT CHANGE MANAGEMENT

- 5.1 A Project may be changed in accordance with **Schedule 12** (Change Control Procedures).

## 6. COMPLETION

- 6.1 The Services will be completed when all of the Deliverables have been accepted by Customer pursuant to the Completion Criteria in the Project Plan.

## 7. IN-FLIGHT PROJECTS

- 7.1 As part of the Transition for each Statement of Work, Provider will provide the Project management and related Services and Deliverables for in-flight Projects as agreed upon by the Parties during the Transition.

## SCHEDULE 3

### CROSS-FUNCTIONAL SERVICE TERMS

This is **Schedule 3** (Cross-Functional Service Terms) (this “**Schedule**”), to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

#### 1. CROSS-FUNCTIONAL SERVICES OVERVIEW AND OBJECTIVES

##### 1.1 Services Overview

This **Schedule 3** (Cross-Functional Service Terms) sets forth the roles and responsibilities of the Parties for the set of common services that apply generally to the provision, delivery, and management of Services (“**Cross-Functional Services**”). Provider will provide Cross-Functional Services across all SOWs entered into by the Parties from time to time unless otherwise expressly provided in a SOW. The services, activities and roles and responsibilities described in this Schedule are within the scope of each SOW for the Services and are included within the Fees for each SOW.

##### 1.2 Service Objectives

- (A) The following are the key high-level Service objectives across the Cross-Functional Services:
- (1) Critical IT and service management functions are integrated into and made a part of the Services provided as part of each SOW.
  - (2) The Customer Group receives Services with an enterprise view across SOWs.

##### 1.3 Required Tooling

- (A) Provider’s Services and Fees are dependent upon Provider’s ability to implement the automation tools defined in the SOWs. Provider requires Customer’s consent, reasonable support and reasonable participation in implementing the automation prerequisites set forth in the SOWs into Customer’s environment in accordance with the agreed upon implementation plan. Subject to **Section 3.20** (Excuse from Performance), if Customer prevents or unreasonably impedes the implementation of Provider’s automation tools, then Provider may be required to make Changes to its implementation plan in order to provide the Services as agreed in the SOWs. Any Changes to the agreed upon implementation plan will be addressed through the Change Control Procedures and may result in an equitable and corresponding adjustment to the Fees and/or Baselines set forth in **Exhibit B** (Fees) of the applicable SOW.
- (B) Notwithstanding anything else in the MSA or SOWs to the contrary, Provider reserves the right to implement automation tools and technologies to enhance its ability to deliver the Services in accordance with the Service Levels. In the event that Provider elects to implement any such tools and/or technologies, Customer will cooperate in good faith in such implementation including, at a minimum, assisting with the implementation of any required automation prerequisites. All such implementations will be addressed through the Change Control Procedures.

**2. SERVICE DESCRIPTIONS AND ROLES AND RESPONSIBILITIES**

**2.1 General Roles and Responsibilities**

(A) The following table identifies general roles and responsibilities that Provider and Customer will perform:

General Roles and Responsibilities	[***]
1. Identify Customer Group’s IT requirements.	[***]
2. Provide Services that support Customer Group’s technical requirements and end user requirements.	[***]
3. Comply with known Customer Policies, standards and regulations applicable to the Services.	[***]
4. Provide Customer Polices, standards and regulations applicable to the Services to Provider.	[***]
5. Develop and timely maintain the comprehensive Process Interface Manuals (“ PIM ”) in accordance with the MSA that contains the actual operational and process standards that will be used in the delivery of the Services.	[***]
6. Report performance against the Service Levels in accordance with the reporting requirements of the applicable SOW.	[***]
7. Monitor and audit Provider’s performance in its delivery of the Services under the Agreement.	[***]
8. Coordinate changes to the IT infrastructure that may affect the Service Levels of any other Service area.	[***]
9. Provide timely creation, updating, maintenance and provision of appropriate Project Plans, Project time and cost estimates, technical specifications, management Documentation and management reporting in a form/format that is acceptable to Customer for Projects and major Service activities.	[***]
10. Coordinate Service delivery with other support groups within each of the other SOWs in coordination with Authorized Users, Customer, and appropriate persons, as necessary.	[***]
11. Provide VIP support Services as necessary.	[***]
12. Provide list of individuals who will receive VIP support.	[***]

**2.2 IT Processes and Responsibilities**

**(A) Administration**

- (1) Administration Services are the activities associated with providing a stable System infrastructure and to effectively and efficiently perform procedures to ensure the Services meet the Service Levels.
- (2) The following table identifies operations and administration roles and responsibilities that Provider and Customer will perform, including:

<b>Administration Roles and Responsibilities</b>	<b>[***]</b>
1. Producing periodic reports as necessary and respond in a timely manner to queries and requests concerning the inventory data or supporting information.	[***]
2. On a periodic basis (at least semi-annually), updating the Asset Inventory and Management System by electronically polling Equipment (to the extent enabled in the Customer-approved enterprise management System provided by Provider).	[***]
3. When performing Equipment installations, validating and correcting physical inventory information.	[***]
4. Conducting regular inventory reconciliation through random record-to-floor physical inventory verification.	[***]
5. Timely updating the Asset Inventory and Management System by the following actions: securely removing Assets that are no longer in use; modifying Asset information resulting from Asset relocation and/or use by a different Authorized User; adding new Asset information upon implementation of new Equipment or Software.	[***]
6. Identifying strategies and approaches that will result in the elimination of unnecessary Equipment or Software, or modifications to existing Equipment and Software that Provider believes will provide Customer with competitive advantages, increased efficiency, increased performance, or cost savings (for example: securely eliminate redundant Equipment; deploy handsets that can utilize a single line for Voice and data; consolidate multiple PCs where a single unit would satisfy Customer's needs, etc.). For the avoidance of doubt, all such identified strategies and/or approaches will follow the Change Control Procedures prior to implementation of any such strategies and/or approaches.	[***]

**(B) Software Support**

- (1) Software support Services consist of the activities related to the secure and efficient installation, upgrade, changes, and support for Customer approved Software.
- (2) The following table identifies Software support roles and responsibilities that Provider and Customer will perform, including:



<b>Software Support Roles and Responsibilities</b>	<b>[***]</b>
1. Installing, upgrading, and changing Software as required and in accordance with Customer Policies and/or technical review board.	[***]
2. Interfacing with retained Customer Personnel and other third parties to promote the compatibility of Software products.	[***]
3. Unless otherwise directed by Customer, installing, upgrading, and changing the Software to prescribed release levels in accordance with Customer Policies and/or technical review board.	[***]
4. Providing installation of department or Authorized User-specific Software as requested by Customer.	[***]
5. Installing bug fixes, patches, updates and upgrades from Third-Party Suppliers for third-party Software Problems, which includes installation of third-party supplied Software patches as required.	[***]
6. At least thirty (30) days prior to the start of each calendar quarter, giving written notice to Customer of upgrades and Software changes that are planned to occur in the following quarter.	[***]
7. Provide input and approval of Software upgrade and change timeline.	[***]
8. Upgrading and effecting changes to the Software in accordance with the timeline approved by Customer.	[***]
9. Coordinating testing, installation, customization, and support of Software with Application development and maintenance personnel, Authorized Users, and other third parties as required.	[***]
10. Observing Customer Change Management procedures while implementing all changes, upgrades, or enhancements.	[***]
11. For any changes, upgrades, or enhancements, advising Customer of any additional Equipment, Network, environmental, or other requirements needed during integration testing and/or otherwise known to be necessary for the implementation thereof.	[***]
12. Supporting Software identified as in-scope in the applicable SOW; excluding Applications supported by Customer's retained staff or other third parties, as required and in accordance with Customer Architecture Standards.	[***]
13. Supporting Software at prescribed release levels or as directed by Customer.	[***]
14. Subject to Change Control Procedures, supporting Software used by a specific Authorized User, pursuant to Customer Policies and/or technical review board as requested by Customer.	[***]
15. Supporting Software internally developed and used by Customer.	[***]
16. For System Software, providing Level 1 and Level 2 support and provide and/or coordinate Level 3 Support.	[***]
17. Providing Authorized Users with Software support, advice, and assistance as needed.	[***]
18. Timely maintaining a list of Documentation that reflects the complexity and diversity of the environment and that enhances the Software support process.	[***]

<b>Software Support Roles and Responsibilities</b>	<b>***</b>
19. Timely maintaining a library of Provider-supplied and Provider-developed Documentation that identifies the Software supported by Provider and the operational support procedures associated with all such Software.	***
20. Timely maintaining master copies of all Customer standard Software in a secure, Customer approved source code repository.	***
21. Maintaining subscription to the anti-virus/malware Software support in order to proactively receive virus/malware engine and pattern updates.	***
22. Performing virus/malware scans on all e-mails.	***
23. Providing and implementing the capability to scan hard drives or other temporary storage devices (such as USB memory sticks, PCMCIA flashcards, FireWire hard drives) for virus/malwares upon request.	***
24. Developing any plans necessary to provide virus/malware protection.	***
25. Promptly responding to virus/malware Incidents per the instructions provided by the Customer in the Incident/ticket submitted to Provider.	***
26. Providing proactive alerts to Authorized Users relative to current virus/malware threats specific to Customer's environment.	***

(C) **Service Catalog**

- (1) Service Catalog Services are the activities associated with developing, revising, archiving, maintaining, managing, reproducing, and distributing an archive of information relating to approved products, Software, and Equipment for Authorized Users.
- (2) The following table identifies Service Catalog roles and responsibilities that Provider and Customer will perform, including:

<b>Service Catalog Roles and Responsibilities</b>	<b>[***]</b>
1. Creating and regularly (at least quarterly) updating a list of Equipment and Software that includes the approved products for purchase or lease by Authorized Users for new deployments (the “ <b>Service Catalog</b> ”).	[***]
2. Aligning the Service Catalog with Customer’s IT strategic direction, technical architecture, Refresh strategy, roadmap, and product evaluation and test results. Provider will obtain Customer’s approval for the Service Catalog.	[***]
3. Timely maintaining the Service Catalog on a relational database System in Customer’s ServiceNow System, which contains links/integration with the Asset Inventory and Management System as necessary and appropriate. Provider will obtain Customer’s prior written approval for the database design and Customer will have full and continual access to the database.	[***]
4. Implementing new Service Catalog items in Customer’s ServiceNow System.	[***]
5. Categorizing the Service Catalog content by type of Service, configuration type, and/or Equipment or Software type (for example, IMACS, network, desktops, laptops, printers, office suite software, PDAs, etc.).	[***]
6. Including in the Service Catalog individual Services, Equipment and Software items, as well as entire configurations of Services, Equipment and Software, as applicable, based on the deployment standards or options (for example: a “New Hire” selection might include acquisition and installation of a PC, network drop, telephone, etc.).	[***]
7. Including any notation required for specific use (or limitation) of the Equipment or Software—or of the delivery of the Service—by region, by business unit, or by category of Authorized User.	[***]
8. Including any technical limitations/requirements for the use of Equipment or Software (for example: minimum disk space, memory, operating System, etc.) or execution/delivery of the Service.	[***]
9. Integrating approvals into the Service Request workflow.	[***]
10. Including a description of how to obtain additional information about all Services, Equipment, and/or Software.	[***]
11. Making the Service Catalog, available on Customer’s Intranet, along with search capabilities and contact information for queries.	[***] 

(D) **Maintenance**

- (1) Maintenance Services are the activities associated with the maintenance and repair of Software, Equipment, and infrastructure, including networks, websites and databases, including “break/fix” services. Installed platform and product version levels are to be maintained in accordance with this Schedule, unless coordinated with and approved in writing by Customer.
- (2) The following table identifies Maintenance roles and responsibilities that Provider and Customer will perform, including:

<b>Maintenance Roles and Responsibilities</b>	[***]
1. Timely coordinating and managing third parties that provide maintenance-related support for Equipment and Software used in conjunction with the Services and performing these responsibilities regardless of the Party (Provider or Customer) that has financial responsibility for the underlying Asset and maintenance expenses.	[***]
2. Timely performing maintenance of Equipment and Software in accordance with Change Management procedures and scheduling this maintenance to minimize disruption to Customer's Services.	[***]
3. Where Provider is financially responsible for the underlying Equipment or Software maintenance expense, providing (or arranging for qualified third parties to provide) maintenance for such Equipment and Software.	[***]
4. Providing such maintenance as necessary to keep the Equipment and Software in good operating condition and in accordance with the manufacturer's specifications, or other agreements as applicable, so that such Assets will qualify for the manufacturer's standard maintenance plan upon sale or return to a lessor.	[***]
5. Coordinating with the Third-Party Supplier of Equipment and Software, and installing and testing all updates, upgrades, bug fixes, and patches in order to maintain such Equipment and Software as necessary to meet specified Service Levels.	[***]
6. For in-scope third-party maintenance contracts, administering and managing the contract on behalf of Customer, notify Customer in writing at least ninety (90) days in advance about maintenance contracts that are about to expire, and recommending modifications to the Services during such third-party maintenance contract renewal consideration period.	[***]

(E) **Refresh and Technical Currency**

- (1) Refresh and Technical Currency Services are the activities associated with modernizing the IT infrastructure on a continual basis to keep the System components current with evolving industry standard technology platforms.
- (2) The following table identifies Refresh and Technical Currency roles and responsibilities that Provider and Customer will perform, including:

<b>Refresh and Technical Currency Roles and Responsibilities</b>	[***]
1. Refresh Equipment and Software as required throughout the Term, for purposes that include meeting Customer's IT requirements; preventing technological obsolescence or failure; and accommodating volume changes, the ability to increase efficiency, the ability to lower costs, and/or the need to maintain the required Third-Party Supplier support; maintaining compatibility with the Customer-owned Software, Customer-licensed Software and Equipment for which Customer has financial responsibility for Equipment Refresh; and otherwise as required for Provider to meet its obligations under the Agreement (including the Performance Standards). Deploying Equipment and Software associated with any Refresh in accordance with the standards of Customer's technical architecture and long-range IT plan.	[***]

<b>Refresh and Technical Currency Roles and Responsibilities</b>	<b>[***]</b>
2. Providing Refresh within the timeframes and other requirements associated with Refresh, as well as the financial responsibility for the underlying Assets in accordance with the Financial Responsibility Matrix, including performing Refresh throughout the Term in accordance with the timeframes and other requirements. Customer reserves the right to modify the Refresh timeframes and requirements during the Term based on its business requirements.	[***]
3. Where Customer is financially responsible for Equipment and Software used in conjunction with the Services, implementing and supporting the new Assets provided by Customer.	[***]
4. Regardless of the ownership of underlying Assets: providing Provider Staff who are adequately trained and skilled with the appropriate expertise in the use of the Equipment or Software to be deployed as part of the Refresh, and providing such training prior to the Refresh; providing minimal disruption to Customer's business operations associated with technology Refresh; using best practices and effective automation tools during Refresh deployment; and performing changes to Equipment and Software in accordance with Change Management procedures.	[***]
5. Unless otherwise directed by Customer, providing and supporting Software under Provider's operational responsibility at the N-1 Release Level.	[***]
6. As directed by Customer, supporting the N-1 Release Level, the N-2 Release Level, and earlier versions of the Software for the longer of the following: (1) the version N Release Level's general public availability or (2) from the time the Third-Party Supplier ceases to support such version.	[***]
7. Using commercially reasonable efforts to support Software that is no longer supported by the Third-Party Supplier.	[***]
8. Providing support for mutually agreed Software versions and release levels that exist as of the Effective Date until otherwise directed by Customer.	[***]
9. Maintaining a standard current level of Software on Customer and the other Authorized User's computing platforms, including: performing the following upon each new N Release Level issued by a Provider: within eight (8) months after the release of a new N Release Level by a Third-Party Supplier (1) testing and evaluating the new release in preparation for upgrading the global Authorized User environment to the new standard level; (2) engaging with Customer Application teams to understand the Authorized User workload required to migrate the production environments to the new Software revision; and (3) building a deployment strategy and plan.	[***]
10. Review and provide input and approval for the Software release deployment strategy and plan.	[***]
11. Deploy Software release in accordance with approved deployment plan.	[***]
12. In partnership with the Software manufacturer(s), building and maintaining a schedule of anticipated releases of major and minor releases of Systems Software, and timely presenting these schedules to the Technical Review Board meetings prior to communicating such schedules to Customer Application teams to build awareness and preparedness to perform the necessary testing and porting of Applications into the new standard environments.	[***]

Refresh and Technical Currency Roles and Responsibilities	[***]
13. Developing an annual plan for Refresh, including: at least ninety (90) days prior to Customer’s annual planning process meetings, reviewing the Asset inventory and producing and delivering a report that lists the Assets that are due to be Refreshed in the upcoming plan year. Based on usability of the Assets and reviewing with Customer alternatives to replace, re-lease, consolidate, or retain the Assets.	[***]
14. Participate in Asset review discussion and provide input in Refresh and/or reasonable alternatives.	[***]
15. Deliver recommendations regarding Asset Refresh and/or reasonable alternatives to Customer within thirty (30) days after the Asset review discussion.	[***]
16. If Software Changes are required due to replacement of Assets, Provider, in consultation with the Customer, will review alternatives for making changes to such Software. requests for replacement of the Assets and mutually agreed Software will be processed in accordance with the Change Control Procedures.	[***]
17. Provide proposal for Refresh of Customer-owned and leased Assets.	[***]
18. Provide input and approval for Refresh plan of Customer-owned and leased Assets.	[***]
19. Execute that Refresh plan utilizing established Service Desk and procurement processes approved in writing by Customer.	[***]
20. Providing monthly reports ninety (90) days prior to lease expiration date showing Assets to be Refreshed with latest data.	[***]
21. Notifying Customer monthly of open agreements related to Assets that will retire within ninety (90) days of the report date.	[***]
22. Tracking and reporting on basic information related to the start and end dates of leases of Equipment.	[***]
23. Updating Asset records after and on retirement.	[***]

(F) **Redeployment and Disposal of Equipment**

- (1) The secure redeployment and disposal of Equipment services are the activities associated planning, tracking, and executing the de-installment and/or redeployment of Customer Assets in order to provide uninterrupted Services.
- (2) The following table identifies Redeployment and Disposal of Equipment roles and responsibilities that Provider and Customer will perform, including:

<b>Redeployment and Disposal of Equipment Roles and Responsibilities</b>	<b>[***]</b>
1. Performing de-installation and/or secure re-deployment of Equipment in accordance with Change Management procedures, including: complying with backup requirements and providing permanent removal of any Customer Software or data that may exist on storage media (either fixed, removable, or shared).	[***]
2. Upon secure redeployment or secure disposal of Equipment, make the necessary changes in the Asset Inventory and Management System.	[***]
3. Prior to a new purchase or lease of any Equipment, advise Customer of any possibility of securely re-deploying existing Equipment.	[***]
4. To the extent the Equipment is owned or leased by Customer, returning the Equipment to a central location or securely re-deploy Equipment as requested by Customer; securely disposing of unusable Equipment in an appropriate, environmentally responsible manner, securely erasing data and configuration information resident in the computer System, storage components, and/or devices in such a manner that makes the data permanently irretrievable prior to securely disposing of Equipment; if the Equipment is owned by Customer and sold for salvage, crediting Customer for the Equipment's salvage price.	[***]

(G) **Delivery and Staging**

- (1) Delivery and Staging Services are the activities associated with the safe, efficient, and timely packing, shipping, and set-up of IT-related Assets.
- (2) The following table identifies Delivery and Staging roles and responsibilities that Provider and Customer will perform, including:

<b>Delivery and Staging Roles and Responsibilities</b>	<b>[***]</b>
1. Providing Services associated with the delivery and staging of Equipment and Software.	[***]
2. Develop shipping and delivery processes during Transition.	[***]
3. Provide input and approval or shipping and delivery processes during Transition.	[***]
4. Receiving Equipment and Software that are delivered in accordance with valid procurement orders from Customer; also assist Customer in the receiving process as necessary at Customer Facilities.	[***]
5. Verifying that contents of the delivery are included according to the valid procurement order.	[***]
6. As appropriate and required, notifying representatives from Customer, Provider or any applicable Third-Party Suppliers that the order has been received; plus completing and forwarding any required paperwork associated with verifying the receipt and contents of the order to the appropriate Customer, Provider, or Third-Party Supplier personnel.	[***]
7. Providing timely input into Provider and/or Customer Systems and processes to provide accurate billing and order/inventory management.	[***]

<b>Delivery and Staging Roles and Responsibilities</b>	<b>[***]</b>
8. After receipt at the initial site, moving or shipping, Equipment and Software (if necessary) to the staging site(s) (and a location within the site) on a scheduled delivery date that is agreed to with the appropriate Authorized User(s) or Third-Party Supplier.	[***]
9. Facilitating shipping to and from sites, as required.	[***]
10. Providing temporary storage and staging facilities for Customer when needed.	[***]
11. Assuming responsibility for freight-related and transportation-related costs associated with the shipment and receipt of Equipment from Equipment manufacturer locations to Customer Facilities and/or Provider Service Locations.	[***]
12. Assuming responsibility for freight-related and transportation-related costs associated with the shipment and receipt of Equipment from Customer Facilities to other Customer Facilities.	[***]
13. Store the Equipment and Software in a Customer provided secure area and do not subject the Equipment or Software to extreme heat, cold, dampness or other unfavorable conditions.	[***]
14. Providing logistics Services (for example, provisioning, site preparation, etc.) associated with the movement of the Equipment or Software from Third-Party Suppliers to staging facilities.	[***]
15. After the Equipment and/or Software has reached its final staging destination and prior to its actual installation: unloading, uncrating, and/or removing the packaging that was used to ship and contain the product; removing shipping and packaging materials from Customer's premises in an environmentally responsible manner; assembling and/or testing the product, including assembling a complete or partial configuration, if required by the agreed installation plan; providing the specific configuration required to complete the assembly and/or installation of the Equipment and Software; using the Customer standard configuration for the underlying type of Equipment and/or Software for new Equipment and Software, unless otherwise approved by Customer in writing; providing configuration specifications and assembly/test instructions to Provider Staff or Third-Party Supplier in electronic format and/or paper copy as needed; providing parts and materials necessary for proper assembly and installation of Equipment, Software and Services, exclusive of electrical power and environmental resources and any other materials specifically agreed in advance and in writing with Customer or a Third-Party Supplier; coordinating with Third-Party Suppliers that are supplying peripheral or ancillary Equipment or Software; providing replacement parts/units to remedy out-of-box failures or Equipment found inoperable during assembly.	[***]

(H) **Quality Assurance**

- (1) Quality Assurance (QA) Services are the activities associated with the assessment and definition of QA activities and parameters, including metrics and procedures consistent with industry standards.
- (2) The following table identifies Quality Assurance roles and responsibilities that Provider and Customer will perform, including:



Quality Assurance Roles and Responsibilities	[***]
1. Developing and employing a quality assurance program, subject to Customer’s approval, designed to promote and consistently maintain performance of the Services at a high level of quality and focus on measuring and improving reliability, speed, cost effectiveness, and Customer satisfaction.	[***]
2. Writing and maintaining procedures and measurements on quality assurance activities associated with the Services.	[***]
3. Ensuring that the quality metrics and procedures employed are consistent with similar standards in Customer’s industry and/or in the provision of similar professional services.	[***]
4. Subject to <b>Section 17.14</b> (Internal Controls) of the MSA, ensuring compliance with a published quality assurance program, with adequate internal controls and verification activities.	[***]
5. In accordance with <b>Article 14</b> (Audits) of the MSA, allowing Customer to perform audits that will focus on Provider’s adherence to its quality assurance procedures and standards; on the metrics gathered to support quality assurance activities; and on Provider’s efforts to improve overall quality.	[***]

(I) **Security Management**

- (1) Security Management Services are the activities that enable Customer, Provider, and Third-Party Suppliers to meet the security requirements detailed in security policies, contractual requirements, legislative requirements, and in the Service Levels schedule.
- (2) The following table identifies security management roles and responsibilities that Provider and Customer will perform, including:

Security Management Roles and Responsibilities	[***]
1. Comply with Customer’s requirements according to security policies, contractual requirements, legislative requirements, and as expressed in the Service Levels.	[***]
2. Comply with Provider’s internal security requirements according to internal security policies and standard security baselines.	[***]
3. Assisting Customer to define security requirements based upon business needs.	[***]
4. Providing advice on improving the information security model and plan implementation.	[***]
5. Complying with its physical and logical security responsibilities, including, in particular, providing that proper segregation of duties exists where appropriate, including where processes span to Provider and/or Third-Party Supplier(s). If during the implementation of Changes or management of crises it is not feasible to observe a proper segregation of duties, immediately informing Customer of this fact and keeping a complete and accurate record of any and all actions performed and by whom.	[***]
6. Provide Customer with a written record within two (2) days after the change or crisis.	[***]

Security Management Roles and Responsibilities	[***]
7. Promptly informing Customer if Provider becomes aware of any vulnerability or weakness in the Services or any Security Incident and participate in discussions related to a possible solution or mitigation.	[***]
8. Complying with Customer security and safety policies, standards and procedures at Customer Facilities, as they may be revised or updated.	[***]
9. Recommending supplemental physical security standards to increase the overall level of security at Customer Facilities.	[***]
10. When noted, recommending supplemental physical security provisions at Customer Facilities.	[***]
11. Complying with Customer Policies, including data and records management and electronic records and data archiving.	[***]
12. Provide to Provider Customer Policies related to data and records management and electronic records and data archiving.	[***]
13. Supporting security administration process with Customer's and Third-Party Supplier(s)'s physical security administration processes, where the processes interact.	[***]
14. In Service Locations, comply with Provider's security processes.	[***]
15. Performing Provider's physical security functions (for example, identification badge controls, and alarm responses) at Service Locations from which Services are being performed.	[***]
16. Provider will provide logical security administration to maintain authorized access to IT data.	[***]
17. Establishing and maintaining mechanisms to safeguard against Security Incidents in accordance with <b>Schedule 9</b> (Information and System Security Requirements) and the Customer Security Document.	[***]
18. Implementing an information security approach that follows a resource-ownership concept for security, for certifying owners, and for periodically reviewing authorized access for computer users.	[***]
19. Researching System security Problems for infrastructure or Applications under the control of Provider. Provider will remediate all such problems on Provider Equipment and will remediate all such problems on Customer Equipment per Customer's instructions.	[***]

Security Management Roles and Responsibilities	[***]
20. Managing and administering access to the Provider-operated Customer Systems and Customer Data; such management and administration will: allow Customer IT security read-only rights related to such Provider-operated Customer Systems regarding the Services, including access to audit trails and logs; allow Customer to retain authority for approval of data and System access requirements; provide such entities and persons as Customer informs Provider access to the Provider-operated Customer Systems; follow Customer's instructions and the procedures regarding such access as in accordance with <b>Article 14</b> (Audits) of the MSA; maintain security rules and access rights in accordance with <b>Schedule 9</b> (Information and System Security Requirements) and the Customer Security Document.	[***]
21. Reviewing documented information security procedures with Customer pertaining to the Provider-operated Customer Systems.	[***]
22. Developing, maintaining, updating, and implementing security procedures with Customer's review and approval, including physical access strategies and standards.	[***]
23. Assisting in the development and utilization of an action plan and escalation procedures to be set forth in the PIM for any Security Incidents in accordance with the <b>Schedule 9</b> (Information and System Security Requirements) and the Customer Security Document and reporting any Security Incidents to Customer, and escalating within Provider's and Customer's organizations, in accordance therewith.	[***]
24. Monitoring users of the Systems and Services for authorized access, reviewing, and deciding which users need to be removed and reporting that to Provider.	[***]
25. Timely responding and promptly removing those users who Customer identifies as no longer having authorized access.	[***]
26. Promptly identify to Customer security risks associated with the Services.	[***]
27. Notifying Customer, and escalating within Provider's and Customer's organizations, in the event of a Security Incident in accordance with the PIM.	[***]
28. Conducting periodic reviews, as appropriate, to validate that Provider employee access to programs and libraries is appropriate for Provider-operated Customer Systems.	[***]
29. Conducting periodic reviews, as appropriate, to validate that Customer employee access to programs and libraries is appropriate for Provider-operated Customer Systems.	[***]
30. Running monthly reports to identify to Customer those accounts that should be removed on Systems for Provider operated Customer Systems.	[***]
31. Capturing data regarding routine access and exceptions for audit trail purposes and making such data available to Customer upon request.	[***]
32. Performing security audits, providing Incident investigation support, and initiating corrective actions as part of the Change Management process to minimize and prevent Security Incidents.	[***]

Security Management Roles and Responsibilities	[***]
33. After obtaining Customer's written approval, installing, updating, and maintaining Software that will provide security monitoring, alarming, and access-tracking functionality for Provider-operated Customer Systems.	[***]
34. Security access control tools for data, Software, and Networks in compliance with Customer Policies, standards and procedures, and maintaining such security and access control devices in proper working order.	[***]
35. Implementing and maintaining a set of automated and manual processes designed to enforce Customer Policies.	[***]
36. Establishing policies and processes for assigning, resetting, and disabling IDs and passwords used for data or System access.	[***]
37. Executing password and ID management, in accordance with Customer Policies, e.g. Active Directory.	[***]
38. Implementing and maintaining a secure database of Provider access requests, access rights, and approval authorities.	[***]
39. Communicating with Authorized Users regarding requests for System or data access, and coordinating with Customer IT security, which authorizes access to Customer Data and Systems.	[***]
40. Running periodic reports to identify accounts that should be removed or unusual disk space usage of a particular Authorized User or group and providing timely reports to Customer IT security.	[***]
41. Coordinating System password changes and, subject to Customer's approval.	[***]
42. Performing backup and recovery procedures in response to Security Incidents that result in lost/damaged information.	[***]
43. Responding to security audit requests from Customer and/or regulatory authorities in accordance with the provisions of <b>Article 14</b> (Audits) of the MSA.	[***]
44. Cooperating and assist with efforts by Customer and/or representatives of Customer for security tests on Customer Systems.	[***]
45. Working together with Customer to Change security in responses to evolving requirements and changing technology.	[***]
46. Maintaining safeguards against Security Incidents in accordance with <b>Article 17</b> (Confidentiality and Customer Data) of the MSA and <b>Schedule 14</b> (Data Privacy) of the MSA.	[***]
47. Supporting security administration processes with Customer's and Third-Party Supplier(s)' logical security administration processes, where the processes interact.	[***]
48. Supporting logical security administration process with Service Management processes, especially Incident Management, Change Management, and IT Service Continuity Management.	[***]
49. Providing Application Development and maintenance security support and advice.	[***]
50. Developing any Application functionality consistently with Customer's security standards and procedures.	[***]

(J) **Service Delivery**

(1) **Capacity Management**

- (a) Capacity Management Services are activities to provide that the capacity of the IT Infrastructure matches the evolving demands of Customer Group in the most cost-effective and timely manner. The process encompasses the following:
- (i) Monitoring performance and throughput of the Services, Systems, and supporting IT components
  - (ii) Understanding current demands and forecasting for future requirements
  - (iii) Developing capacity plans which will meet Customer Group’s demand and the Service Levels
  - (iv) Conducting risk assessment of capacity recommendations
  - (v) Identifying financial impacts of capacity plans
  - (vi) Undertaking tuning activities of the Systems and Services
- (b) The following table identifies Capacity Management roles and responsibilities that Provider and Customer perform, including:

Capacity Management Roles and Responsibilities	[***]
1. Capacity Management is the primary responsibility of Provider.	[***]
2. Provide input on and participate in capacity management planning.	[***]
3. Provider will apply Capacity Management to the applicable Services.	[***]
4. Formally reviewing capacity requirements as part of Customer’s normal business planning cycle.	[***]
5. Verifying that there is adequate capacity to meet the required Service Levels.	[***]
6. Managing capacity to demand for the Services.	[***]
7. Working with Customer to achieve optimal utilization of capacity.	[***]
8. Providing additional capacity or advising Customer regarding the need for additional capacity, as appropriate.	[***]
9. Monitoring resources and System performance, System utilization, capacity limits, and expected capacity needs, and recording that information.	[***]
10. Producing regular management reports, including current usage of resources, trends and forecasts, and exceptions.	[***]
11. Determining capacity requirements of new Systems to determine the necessary computer and Network resources required, and then sizing such new Systems, taking into account Equipment utilization, performance of Service Levels, and cost (minimizing cost to Customer). Changes or implementations of new Systems will be subject to the Change Control Procedures.	[***]

Capacity Management Roles and Responsibilities	[***]
12. Utilizing, and reporting on the use of such, new Equipment and Software in order to improve the efficiency and effectiveness of the process, as part of the continuous improvement and evolution of the Services.	[***]
13. Carrying out performance testing of new Systems to confirm that such Systems meet planned performance and utilization expectations and requirements.	[***]
14. As requested by Customer, or as needed to deliver the Services, proposing Service Levels that are maintainable and cost-justified.	[***]
15. Tuning Systems to achieve optimum use of Equipment, Network, and Software resources.	[***]
16. Timely resolving performance-related Incidents and Problems.	[***]
17. Performing ad hoc performance and capacity studies as requested by Customer or as needed to deliver the Services.	[***]
18. In support of Application development and maintenance activities, estimating applicable resource requirements, including impact on the capacity of the server environment, network environment, end-user computing environment, etc., as required.	[***]
19. Deploying proactive capacity management processes wherever practicable to do the following: prevent Incidents and Problems related to resource utilization from occurring; trend current System and resource utilization and estimate future utilization; validate and verify that planned changes affect only the expected resource impact.	[***]
20. Utilizing reactive capacity management (that is, responding reactively to occurrences of insufficient capacity) whenever necessary to facilitate successful performance of the Services.	[***]
21. Investigating new technology applicable to the Services and incorporating technological development, advances, and evolution into the Services and reporting on such technology upgrades/proposals. Incorporation of new technology is subject to the Change Control Procedures.	[***]
22. Aligning capacity management and Provider's IT business plan for the Services with Customer's Long-Range IT Plan.	[***]
23. Applying capacity management tools, data, reports, and disciplines to Incidents and Problems relating to poor performance in order to timely resolve such Incidents and Problems.	[***]
24. Aligning capacity management outputs with the Service Levels and other performance requirements documented in the Agreement.	[***]
25. Actively including capacity management in the Change management process to assess Changes for their impact on the capacity of the Systems and providing appropriate feedback to those submitting change requests.	[***]
26. Incorporating Customer work schedules, periodic business fluctuations, and dependencies between elements of the Services into capacity management planning.	[***]
27. Performing short-term demand management as required to maintain delivery of the Services during failures, spikes in demand, or other spontaneous events.	[***]

Capacity Management Roles and Responsibilities	[***]
28. In consultation with Customer, supporting demand management activities to encourage Authorized Users to make the most efficient use of the Services and assisting Customer to minimize its costs while maximizing the value it receives from the Services. Provider's responsibilities in this regard include developing demand management models and making recommendations to dampen Authorized User demands on Systems, when requested by Customer.	[***]
29. Assisting Customer in forecasting Customer's capacity requirements and monitoring, validating and reporting to Customer the capacity forecast against Customer's actual utilization.	[***]
30. Proactively developing and delivering to Customer forecasts of growth and other changes in response to the projected Customer business and operational needs disclosed by Customer to Provider on an annual basis, or more frequently as Customer may reasonably require.	[***]
31. Working with Customer to maintain knowledge base of future demand for the Services and estimating the effects of demand on Service Levels.	[***]
32. Reviewing Customer's IT strategies, IT plans, and IT financial plans and validating that capacity management requirements align with those plans and, to the extent such alignment does not exist, work with Customer in order to bring about such alignment.	[***]
33. On an agreed schedule, or as requested by Customer, revising the capacity planning model based on actual performance.	[***]
34. Using appropriate types of modeling in support IT planning and capacity and utilization studies; such modeling could include: estimates based upon experience and current and historical resource utilization experience; pilot projects; prototype development; analytical modeling; simulation modeling; baseline models; trend analysis; forecasting.	[***]
35. Participate as needed in Customer's business capacity management planning processes.	[***]
36. Producing and updating the capacity plan in conjunction with Customer's IT business planning cycle.	[***]
37. Provide capacity planning recommendations based on business needs to Provider.	[***]
38. Incorporate Customer's capacity planning recommendations into Provider's annual plan. Provider will include the Capacity Plan in Provider's annual publication of the IT business plan.	[***]
39. Updating Provider's capacity management information in a timely manner with the technical specifications of newly acquired Configuration Items (" CIs "), changed CIs, Service performance requirements, planned workloads and demands to be placed upon the IT resources, and any other relevant information. at least twice-yearly, sampling the Provider's capacity management information to ensure the correctness of the data contained therein and provide report to Customer.	[***]
40. Investigating and researching threshold breaches and near misses to determine what remedial action should be taken, then planning and performing such remedial actions through the Change Management process.	[***]

<b>Capacity Management Roles and Responsibilities</b>	<b>[***]</b>
41. Employing regular monitoring, identification of exceptions, and manual review of reports and trends.	[***]
42. Maintaining an understanding of the capacity and utilization of each of the IT components that Provider manages, including Equipment, Software licenses, and voice and data circuits.	[***]
43. As necessary to provide optimum resource usage (Equipment, Software, circuits, etc.) in the delivery of the Services, installing Equipment and Software monitors, properly configuring those monitors, and collecting the resultant data.	[***]
44. Upon request, estimating the resource and utilization effects of planned changes.	[***]
45. Reactively responding to Incidents and Problems that are caused by a lack of resource or an inefficient use of a resource.	[***]
46. Proactively identifying components that are susceptible to failure and recommending cost-effective solutions for Customer's consideration and possible approval.	[***]

(2) **Availability Management**

- (a) Availability Management Services are the activities associated with tuning Service components for maximum availability of Services.
- (b) The following table identifies Availability Management roles and responsibilities that Provider and Customer will perform, including:

<b>Availability Management Roles and Responsibilities</b>	<b>[***]</b>
1. Optimizing the capability of the Infrastructure and Services by collecting, monitoring, analyzing, and reporting on key elements of Availability and then initiating Change through the Change Control Procedures when required, necessary to meet the Service Level requirements for Availability.	[***]
2. Determining Availability requirements in business terms.	[***]
3. Provide requirements on expected performance levels of Availability and security to Provider.	[***]
4. Designing for expected Service Levels of Availability and security.	[***]
5. Develop Availability plans.	[***]
6. Review and approve Availability plans.	[***]
7. Implement approved Availability plans.	[***]
8. Continuously reviewing and improving Availability.	[***]
9. Operating and maintaining an Availability management process to plan, implement, measure, and manage the Availability and the general reliability of the Services to confirm that the levels of Availability and reliability consistently meet Customer's IT requirements and objectives.	[***]
10. Integrating Provider's Availability management process with Customer's and/or Customer's Third-Party Supplier's Availability management processes, where the processes interact.	[***]



Availability Management Roles and Responsibilities	[***]
11. Integrating the Availability management process with other Service management processes, including Incident management, Change management, Service capacity management, and IT Service continuity management.	[***]
12. Providing the levels of Availability and reliability of the Services in compliance with the Service Levels. Provider will provide an IT Infrastructure architecture that allows the introduction of new layers of complexity that does not compromise overall reliability.	[***]
13. Producing Availability and reliability impact assessments with respect to change request and work orders.	[***]
14. Cooperating with Customer and its Third-Party Supplier(s) to provide Availability and reliability of the Services to Authorized Users in accordance with the Service Levels.	[***]
15. Retaining at least twenty-four (24) months of Availability and reliability data to enable trend analysis and making such data available to Customer.	[***]
16. Providing early warning or advice to Customer of potential or actual Availability and reliability issues. Provider will provide additional advice as the potential threat to Availability or reliability increases and as the threat becomes more imminent. Work diligently to remediate all such threats.	[***]
17. Providing regular reporting of Service outages related to the Services that affect Authorized Users irrespective of where the outage occurred.	[***]
18. Providing a monthly report in a format agreed upon with Customer that, at a minimum, provides a comparison of performance and Availability; providing a list of outages, linked to an Incident, including the date and time the outage commenced, its duration, and the affected infrastructure and Applications; providing trend analysis of the performance for critical Services and the Applications supported by the critical Services (the “ <b>Critical Applications</b> ”) during the thirteen (13) most recent months; reporting on proposed preventative maintenance activities.	[***]
19. Providing Customer with recommendations of preventative maintenance options and implementing any such preventative options approved by Customer pursuant with the Change Control Procedures.	[***]

(3) **Service Continuity Management**

- (a) Service Continuity Management Services are the activities required to provide prioritized Service Continuity for Customer, including Applications, and their associated infrastructure ( e.g. , CPU, servers, network, data and output devices, End-User Devices) and associated Voice and data Networks.
- (b) The following table identifies Service Continuity Management roles and responsibilities that Provider and Customer will perform, including:

Service Continuity Roles and Responsibilities	[***]
1. Customer will retain responsibility for its business continuity plans and management activities and will approve Provider's activities in advance.	[***]

(K) **Service Support**

(1) **Incident Management**

- (a) Incident Management Services include the activities associated with restoring normal Service operation as quickly as possible and minimize the adverse impact on Customer business operations, thus ensuring that the best possible levels of Service quality and availability are maintained.
- (b) The following table identifies Incident and Problem Management roles and responsibilities that Provider and Customer will perform, including:

Incident Management Roles and Responsibilities	[***]
1. Providing an Incident management process that will restore Service operation as quickly as possible with minimum disruption to the business, thus enabling the best achievable levels of availability and Service quality to be maintained to promote Authorized User satisfaction.	[***]
2. When an Incident occurs, restoring Service as quickly as possible with minimal business impact.	[***]
3. Implementing an Incident management process that is flexible and facilitates effective communication and coordination across functions, Customer Facilities, regions and Third-Party Suppliers.	[***]
4. Integrating Provider's Incident management process with the Customer's Service management processes, including Problem Management, Configuration Management, and Change Management.	[***]
5. Validating that the Incident management process provides an audit trail that meets Customer's requirements, including; recording detailed audit information of the activity that creates, changes, or deletes data and user access to Systems that contain Customer Data; providing end-to-end traceability even when transactions span across multiple Applications, Systems components, or parties.	[***]
6. Communicating the Incident management process to Provider's organization, Customer, and each Third-Party Supplier involved in the delivery of IT Services.	[***]
7. Facilitating and leading information exchange between and among Provider, Customer, and/or Third-Party Suppliers to improve end-to-end Incident management.	[***]
8. Developing and documenting processes regarding interfaces, interaction, and responsibilities between Level 1 support personnel, Level 2 support personnel, and other internal or external persons or entities that may either raise an Incident, act on an Incident, or receive an Incident.	[***]

Incident Management Roles and Responsibilities	[***]
9. Wherever possible, designating end-to-end responsibility and ownership for each Incident to a single Provider Service Desk staff member, thus minimizing redundant contacts with the Authorized User.	[***]
10. Providing a mechanism for expedited handling of Incidents that are of high business priority to Customer and/or Third-Party Suppliers, based on the assigned Severity Level, as per escalation processes described in the Incident and Problem management procedures.	[***]
11. Use Customer's existing ServiceNow tools in order to provide real-time visibility of data records associated with Incidents, including Service Requests to Customer and other Third-Party Suppliers.	[***]
12. Receiving and logging Incidents (including submissions received by telephone, electronically, or other means approved by Customer) and opening an Incident record.	[***]
13. Providing Incident detection, reporting, recording, and initial support.	[***]
14. Providing Incident investigation, diagnosis, impact analysis, and reclassification as required.	[***]
15. Utilizing and timely updating the Incident management System with complete and relevant information relating to an Incident.	[***]
16. Making an initial determination of the potential resolution.	[***]
17. Prioritizing and escalating Incidents from VIP users.	[***]
18. Linking multiple contacts pertaining to the same Incident to the associated Incident record.	[***]
19. Linking multiple Incidents pertaining to the same Service Request to the associated Service Request.	[***]
20. Resolving as many Incidents as possible during the Authorized User's initial contact with the Service Desk, without transferring the call or using any escalation.	[***]
21. Resolving Incidents that are resolvable by Level 1 support and closing the Incident, including Service Requests, after receiving confirmation from the affected Authorized User that the Incident has been resolved.	[***]
22. Resolving Incidents arising from or related to the Services, including break/fix Equipment and Software support.	[***]
23. Acting proactively and coordinating with other parties (whether Parties or third parties) as needed in order to resolve Incidents and action Service Requests.	[***]
24. Transferring Incidents within specified time limits to the appropriate party without compromising Service Levels or security requirements.	[***]
25. Providing or coordinating the Resolution of Incidents.	[***]
26. Escalating issues to the appropriate levels for Resolution in accordance with escalation procedures approved by Customer.	[***]
27. Escalating an Incident where the Incident cannot be resolved within the relevant Service Levels or otherwise agreed timeframe.	[***]

<b>Incident Management Roles and Responsibilities</b>	<b>[***]</b>
28. Closing an Incident, including Service Requests, only after receiving confirmation from the affected Authorized User that the Incident has been resolved.	[***]
29. Restoring normal Service operations as quickly as possible following an Incident, with minimum disruption to Customer's business operations, and in compliance with Service Levels.	[***]
30. Retaining overall responsibility and ownership of Incidents until the Incident is closed subject to the Incident management process defined in the PIM.	[***]
31. Tracking and reporting the progress of Resolution efforts and the status of Incidents Provider is responsible for, including: reviewing the proposed resolution time for each Incident with the appropriate party and updating the status accordingly; coordinating Incident tracking efforts, and providing and maintaining regular communications between parties and Authorized Users until Incident resolution; keeping Customer informed of changes in Incident status throughout the Incident life cycle in accordance with agreed Service Levels; keeping Customer informed of anticipated Resolution times for active Incidents.	[***]
32. Leveraging a knowledge base to assist with the Resolution of Incidents and the processing of Service Requests, including: making the knowledge base available online to Authorized Users for user self-help. Tracking the use of the knowledge base and reporting usage statistics to Customer on a monthly basis, or as requested by Customer (for example, the number of Incidents resolved using the knowledge base).	[***]
33. Where Incidents relate to Assets, updating details in the Asset Inventory and Management System and the CMDB, or coordinating with the relevant process to confirm updates are made.	[***]
34. Performing the same functions and assuming the same responsibilities for Service Requests as required for Incident Management, including: tracking and managing Service Requests from Authorized Users; resolving Service Requests by working with Service management teams, business owners, and Third-Party Supplier(s); and providing liaison with Change Management to confirm that Service Requests follow the Change Management procedures, as appropriate.	[***]
35. Recording the Incident and opening an Incident record.	[***]
36. Transferring the Incident to the appropriate person or entity for resolution or to provide guidance.	[***]
37. Continuing to work toward resolution of the relevant part(s).	[***]
38. Transferring the remaining part(s) to the Service Desk, without compromising relevant Service Levels.	[***]
39. Providing status updates to Authorized User within agreed Service Levels.	[***]
40. Escalating unresolved Incidents according to procedures approved by Customer, and prioritizing high-impact Applications, Software, Equipment and Services, such that they are treated with the highest priority.	[***]

Incident Management Roles and Responsibilities	[***]
<p>41. Implementing escalation procedures that reflect and describe the Incident, including: Severity Level of the Incident; location of the Incident and the name and/or number of affected Authorized Users; elapsed time before an Incident is escalated to the next higher Severity Level; The levels of involvement (and notification) of Provider management and Customer management at each Severity Level; investigative and diagnostic activities to identify workarounds for each Incident; Incident resolution activities to restore normal Service in compliance with the relevant Service Levels; ability to resolve Incidents by matching Incidents to known errors that are stored in a Known Error Database; ability to resolve Incidents by implementing workarounds that are stored in a knowledge base; escalation process used to escalate Incidents to appropriate support teams when necessary; escalation process used to escalate Incidents to Provider’s and/or Customer’s management team; ability to generate Change requests where necessary for the implementation of workarounds; ability to generate a Problem from an Incident; ability to record information on the details of the Incident and the corrective action for later statistical analysis as part of the Problem Management process.</p>	[***]
<p>42. Creating an audit trail of activity that creates, changes, or deletes data and user access to Systems that contain Customer Data and end-to-end traceability across Applications, Systems, and parties.</p>	[***]
<p>43. Maintaining a central knowledge database used to capture, store, and retrieve information and solutions for reuse by Provider Staff, Third-Party Supplier(s), and Authorized Users. This knowledge database will enable the sharing of policies, procedures, best practices, and methods to resolve Incidents among Provider Staff, Third-Party Suppliers(s), and Authorized Users.</p>	[***]
<p>44. Regularly updating the Incident Management System (including the central knowledge database) with Provider solutions and best practices as they are developed, including updates based on “lessons learned” and experience with similar technologies and problems for other customers.</p>	[***]
<p>45. Allowing Customer to monitor and view the knowledge database on an ongoing basis (including Authorized Users).</p>	[***]
<p>46. Limiting access to the Incident Management Systems to the agreed levels for the type of Authorized Users who require access to the Systems.</p>	[***]
<p>47. Providing Provider, at Customer’s expense, with appropriate licenses and/or interfaces to use the ServiceNow (or any replacement thereof).</p>	[***]
<p>48. Providing regular progress notifications to Customer on current Priority Level 1, Priority Level 2, Priority Level 3, and Priority Level 4 Incidents and, as necessary, through any follow-up communication and work required post-Resolution. The frequency of such notification is determined by the severity of the Incident in accordance with the PIM.</p>	[***]

Incident Management Roles and Responsibilities	[***]
49. Providing regular progress notifications to the Service Desk on Incidents raised by VIP users, with the frequency of such notification in accordance with relevant Service Levels and Customer requirements.	[***]
50. Providing prompt notification to Customer of System outages on Systems Customer designates as critical and otherwise providing affected Authorized Users with regular and timely progress updates that clearly indicate information about the Incident including: nature of the Incident; estimated time to completion; potential short-term alternatives.	[***]
51. Providing the monthly report in electronic copy in a format agreed to with Customer, which at a minimum includes: key issues relating to Incident Management; number of Incidents during the month, grouped by severity, Service, region, and classification; list of Incidents, short description, reference number, and a shortcut to detailed description; detailed description, including timing of activities; links to Problems and the Known Error Database; trend analysis of the Incidents reported during the thirteen (13) most recent months.	[***]
52. Calculating statistics and providing monthly reports to Customer, which include: sources of the Incidents; frequency regarding the types or categories of Incidents; the duration of open Incident (average and quantities by age); number of Incidents resolved upon first contact; the Service Desk call-abandoned rate.	[***]
53. Provide information regarding Incident resolution, including Service Level measurement reporting.	[***]

(L) **Problem management**

- (1) Problem Management Services also include minimizing the adverse impact of Incidents and related Problems on the business of Customer Group that are caused by errors in the IT infrastructure, and to prevent the recurrence of Incidents related to those errors. In order to achieve this goal, Problem Management seeks to get to the root cause of Incidents and then initiate actions to improve or correct the situation.
- (2) The following table identifies Problem Management roles and responsibilities that Provider and Customer will perform, including:

Problem Management Roles and Responsibilities	[***]
1. Determining the root cause of the Incidents comprising a Problem, and then initiating actions to improve or correct the situation.	[***]
2. Using a Problem Management process to reduce the recurrence of Incidents.	[***]
3. Communicating the Problem Management process within the Provider organization and to each Third-Party Supplier(s).	[***]
4. Integrating Provider's Problem Management process with its other Service management processes, especially Incident Management, Configuration Management, and Change Management.	[***]

Problem Management Roles and Responsibilities	[***]
5. Managing the effective entry of data into Problem Management Systems and escalating to Customer for prioritization and approval, including: Providing Customer the ability to enter Problem tickets directly into the Problem Management System; Supporting the effective execution of root-cause analysis.	[***]
6. Managing and resolving any deviation from the effective management of Problems.	[***]
7. Facilitating information exchange between and among Provider and Third-Party Supplier(s), which will drive continued improvement in Problem Management.	[***]
8. Conducting regularly scheduled Problem Management meetings to prioritize the resolution of Problems. Providing single point of contact, or designated assignee, for each Problem.	[***]
9. Survey Incidents to identify reoccurring Problems.	[***]
10. Validating that Problem resolution and corrective actions taken are sufficient to confirm that root causes identified do not reoccur in same or similar environments regularly. This includes updating manuals, procedures, and other Documentation.	[***]
11. Verifying Provider and Third-Party Supplier(s) are implementing corrective actions identified above in accordance with the PIM.	[***]
12. Escalating to appropriate management within Provider and Third-Party Supplier(s) if corrective actions are not being closed.	[***]
13. Documenting and publishing Problem Management meetings status reports to Customer, Provider, and necessary Third-Party Supplier(s) key resources; recording Problem Management status in the IT Service management (ITSM) system, which as of the Effective Date is ServiceNow.	[***]
14. Updating the knowledge database with relevant information, including documented workarounds for known Problems.	[***]
15. Performing trend analyses on the volume and nature of Problems in order to identify areas for improvement and reporting on the trend analyses and improvements to Customer and Third-Party Supplier(s) on at least a quarterly basis.	[***]
16. Developing tools/scripts and enhancing processes to proactively perform Problem Management, with the objectives of automating the Problem Management process and predicting Problems before they occur.	[***]
17. Implementing measures to avoid unnecessary reoccurrence of Problems.	[***]
18. Coordinating Problem tracking efforts and notifications to the Service Desk and Third-Party Supplier(s); and maintaining regular communications between parties until problem resolution.	[***]
19. Managing Problems in accordance with consistent and agreed classification and prioritization criteria.	[***]
20. Retaining overall responsibility and ownership of Problems until the Problem is closed subject to Customer approval.	[***]

<b>Problem Management Roles and Responsibilities</b>	<b>[***]</b>
21. Updating the Problem Management System (including the knowledge database) with Provider solutions and best practices as they are developed, including updates based on “lessons learned” and experience with similar technologies and problems for other customers.	[***]
22. Maintaining access to Problem Management information and ability to write reports.	[***]
23. Providing a monthly report in a format approved by Customer. This report includes: the number of Problems in total and grouped by type, severity, status and whether a known error; Problem reviews; Problem trend analysis findings; issues relating to the Problem Management Service, such as any other information that may improve or facilitate a better Problem Management process, including decisions to be made by Customer and Provider; trend analysis of Problems reported during the thirteen (13) most recent months; Communication and Notification.	[***]
24. Maintaining communications and providing reports through the Service Desk to Customer and affected Authorized Users and, as necessary, to Third-Party Supplier(s) from the time a Problem is identified through resolution. As necessary, also providing any follow-up communications and reporting work required post-resolution.	[***]
25. Tracking and reporting any backlog of unresolved Problems on at least a monthly basis to the Problem Manager, or more frequently as requested by Customer.	[***]
26. Providing the Problem Management team with monthly and ad hoc electronic reports on Problems including: statistics on total numbers of Problems; outstanding Problems; Resolution time; chronic outages; performance; and Problem trend analysis.	[***]

(M) **Configuration Management**

- (1) Configuration Management Services are activities that provide a logical model of the infrastructure by identifying, controlling, maintaining, and verifying installed Software, Equipment, and infrastructure, including networks, websites and databases versions to account for IT Assets and configurations, provide accurate information on configurations and provide a sound basis for Incident, Problem, Change Management and Release Management and to verify configuration records against the infrastructure and correct any exceptions.
- (2) The following table identifies Configuration Management roles and responsibilities that Provider and Customer will perform, including:

<b>Configuration Management Roles and Responsibilities</b>	<b>[***]</b>
1. Maintain a CMDB that contains details of the elements that are used in the provision and management of its IT Services and which contains information that relates to the maintenance, movement, and problems experienced with the CIs.	[***]



Configuration Management Roles and Responsibilities	[***]
2. Maintaining a Configuration Management process including in accordance with the PIM, that will include; Maintaining accurate configuration data for the CIs — including operations documents, Equipment, Software and Applications — used to provide the Services; verifying that only authorized and identifiable CIs — including operations documents, Equipment, Software and Applications — are accepted and recorded from receipt to disposal; based on the capability of the CMDB platform reproducing the configuration status of the CIs — including operations Documentation, Equipment, Software and Applications — at any point in time throughout its life cycle; conducting reviews and sampling to verify the physical existence of CIs — including operations documents, Equipment, Software, and Applications — and checking that they are correctly recorded in the CMDB; producing and maintaining current Equipment, Software, and Applications architecture and design Documentation for issue to Customer upon request.	[***]
3. Integrating the Provider’s Configuration Management process with Customer’s and Third-Party Supplier(s)’ Configuration Management processes, where the processes interact, as defined in the PIM.	[***]
4. Integrating the Configuration Management process with Service management processes, including Incident Management, Problem Management, Change Management, and Release Management as defined in the PIM.	[***]
5. Using the Configuration management process to identify, control, maintain, and verify the CIs (CIs) approved by Customer as comprising the Equipment, Software, and Applications to provide the Services as defined in the PIM.	[***]
6. Verifying that CIs approved by Customer for the Equipment, Software, and Applications are incorporated into Customer’s CMDB as defined in the PIM.	[***]
7. For each Customer-approved CI, using at least the attributes specified by Customer.	[***]
8. Validating that change to any CI record in the CMDB is the result of an approved Request for Change, including: Validating the integrity and currency of the CMDB by validating the content of the CMDB against the CIs that provide the Services; and If a discrepancy is found, taking corrective action through the Incident Management process as defined in the PIM.	[***]
9. Maintaining the CMDB to meet performance standards, to maximize efficiency, and to minimize outages, as necessary.	[***]
10. Provide CMDB physical database management support, including providing backups and restores of data in a timely manner.	[***]
11. Install, maintain, and support CMDB-related database Software products.	[***]
12. In the event of unusual activity, correct situations caused by lack of CMDB capacity in a timely manner (such as dataset or table space capacity events, full log files, etc.).	[***]

Configuration Management Roles and Responsibilities	[***]
13. Validate synchronization and currency of the CMDB and Active Directory by continually validating the content of the Active Directory components of the CMDB against the content of the relevant Active Directory.	[***]
14. Testing and implementing CMDB database environment changes, as approved by Customer.	[***]
15. Validating synchronization and currency of the CMDB and Active Directory by validating the content of the Active Directory components of the CMDB against the content of the relevant Active Directory.	[***]
16. In accordance with the PIM, taking corrective action through the Incident Management process if a physical sample identifies any deficiency in the accuracy or completeness of the records in the CMDB.	[***]
17. Scope of CMDB includes non-production environments, including pre-deployed CI's	[***]
18. Verifying release and configuration Documentation before Changes are made to the live environment.	[***]
19. Maintaining a secure audit trail of CMDB transactions.	[***]
20. Customer will retain access to information in the CMDB and be able to write reports on this data.	[***]

(N) **Change Management**

- (1) Change Management Services are activities that are to ensure that standardized methods and procedures are used for efficient and prompt handling of changes, in order to minimize the impact of change upon Service quality and consequently to improve the day-to-day operations of Customer Group. Change Management covers aspects of managing the introduction and implementation of changes affecting Services and in any of the management processes, tools, and methodologies designed and utilized to support the Service components. The Change Management process includes the following process steps:
- (a) Request process
  - (b) Recording/tracking process
  - (c) Prioritization process
  - (d) Responsibility assignment process
  - (e) Impact/risk assessment process
  - (f) Review/approval process
  - (g) Implementation process
  - (h) Verification (test) process
  - (i) Release process

(j) Closure process

(2) The following table identifies Change Management and Release Management roles and responsibilities that Provider and Customer will perform:

<b>Change Management Roles and Responsibilities</b>	<b>[***]</b>
1. Communicating the Change Management process within the Provider's own organization and to each Third-Party Supplier(s).	[***]
2. Validate the Change Management process complies with Customer's Software quality standards and requirements.	[***]
3. Provide Software quality standards and requirements.	[***]
4. Align the Change Management process with Customer's IT processes for new hardware/Software requests and Projects.	[***]
5. Provide requirements for IT processes for new hardware/Software requests and Projects.	[***]
6. Verifying that the effective execution of the Change Management process, as well as an appropriate review of planned changes, takes place with due consideration of the business and technology risk of planned changes, taking into consideration all defined criteria (such as complexity of change, the skill level of the individual(s) executing the change, the planned change execution timeframe, the change slot timeframe, the back-out timeframe, and the relevant business processing criticality).	[***]
7. With proper authorization, stopping any planned changes that, in the professional view of the person(s) performing the Services, would compromise the continuation of Services to Customer, and act as the gatekeeper to production, unless expressly overridden by Customer's Operations Manager in accordance with the approved Change Advisory Board escalation process, and assuming responsibility for escalating any issues arising from the decision to stop a planned change.	[***]
8. Managing and conducting the review of any change failures and providing a strong interlock between Change Management and Incident Management and Problem Management processes so that post-change issues can be linked to the change activity where relevant.	[***]
9. Managing to Resolution any deviation from effective Change Management process, providing review and closure of failed changes.	[***]
10. Facilitating and leading information exchange between and among the Provider and the Third-Party Suppliers in order to drive an effective Change Management Process.	[***]
11. Not making changes that (a) may adversely affect the function or performance of, or decrease the resource efficiency of the Services, (b) increase Customer's costs or fees, or (c) impact the way in which Customer conducts its business or operations, without obtaining prior Customer approval via the Change Advisory Board (CAB).	[***]
12. Approve or reject, via Change Advisory Board (CAB). Changes that may (a) adversely affect the function or performance of, or decrease the resource efficiency of the Services, (b) increase Customer's costs or fees, or (c) impact the way in which Customer conducts its business or operations.	[***]

Change Management Roles and Responsibilities	[***]
13. Raising and recording changes.	[***]
14. Assessing the impact, costs, benefit, and risk of the proposed changes.	[***]
15. Providing and maintaining compliance with Customer policies.	[***]
16. Provide Customer Polices and maintain compliance with said polices.	[***]
17. Confirming business justification and obtaining approval.	[***]
18. Performing changes in Customer’s IT environment pertaining to the Services, including changes to individual components and coordination of changes across components.	[***]
19. Making changes in accordance with Change Management processes approved by Customer and documented in the PIM.	[***]
20. Monitoring and reporting on the change implementation.	[***]
21. Reviewing and closing changes.	[***]
22. Cooperating with the Service Desk and Third-Party Supplier(s) for changes across Applications, System components, and parties.	[***]
23. Participate in changes that are cross-Application, System components, or parties.	[***]
24. Integrating the Change Management process with its other Service management processes, including Incident Management, Problem Management, Configuration Management, and IT Service Continuity Management.	[***]
25. Collecting data on every change attempted, including: the reason for change; detailed description of change; the cause of any Incidents; measures taken to prevent recurrence; and whether the change was successful from the perspective of the Authorized Users of the System or Third-Parties affected by the change.	[***]
26. Summarizing the changes made each week and reporting the information to Customer on a weekly basis.	[***]
27. Capturing Customer change data centrally.	[***]
28. Providing an audit trail of changes to the production environment in order to determine the change made and the authorization to make the change.	[***]
29. Conducting Post Implementation Reviews (PIR) on changes as requested by Customer.	[***]
30. Maintain a standardized method and procedure for the efficient and effective handling of changes (an overall Change Management process), in a way that minimizes risk exposure and maximizes availability of the Services in accordance with the Change Management process in the PIM.	[***]
31. Manage and lead Change Advisory Boards (CAB).	[***]
32. Coordinating Change Management activities across functions, Customer’s Facilities, regions, and Third-Party Supplier(s) that provide services to Customer.	[***]
33. Participate in Change Management activities across functions, Customer’s Facilities, regions, and Third-Party Supplier(s) that provide services to Customer.	[***]
34. Making any changes necessary to provide the Services and to meet required Service Levels, in accordance with the PIM.	[***]

<b>Change Management Roles and Responsibilities</b>	<b>[***]</b>
35. In an emergency, gaining approvals from the Change Advisory Board Emergency Committee, according to Change Management process.	[***]
36. Perform Provider responsibilities in the Change Management process in accordance with the PIM and responsibilities laid out in the change request.	[***]
37. Perform Customer responsibilities in the Change Management process in accordance with the PIM and responsibilities laid out in the change request.	[***]
38. On a weekly basis, participating in Change Management meetings with Customer's Change Manager or designee.	[***]
39. Submit proposed changes in advance to Customer in accordance with the change requirements set out in the Change Management process in the PIM.	[***]
40. Reviewing proposed changes and schedules with Customer and obtaining necessary approvals for proposed changes.	[***]
41. Coordinating with Customer affected Third-Parties and designated representatives at Facilities potentially affected by a change in order to minimize disruption of normal business processes.	[***]
42. Controlling System changes and activities required by moves, upgrades, replacements, migrations, and so forth.	[***]
43. Including rollout, testing, and roll-back plans for change requests.	[***]
44. Providing information to Customer in accordance with Customer's Change Management process on the outcome of any request for change and the updated status after each change is implemented.	[***]
45. Updating operational and other Documentation affected by the change.	[***]
46. Reporting the status of scheduled changes, including maintaining a comprehensive list of Projects and dates.	[***]
47. Report that status of scheduled changes to the Services.	[***]
48. Conducting Post Implementation Reviews (PIR) on changes.	[***]
49. Implementing standard operating procedures in the PIM for standard changes, where appropriate.	[***]
50. Performing routine maintenance during regular periods scheduled in advance and approved by Customer.	[***]
51. Validating that Systems will be unavailable during maintenance windows only to the extent necessary for Systems maintenance purposes.	[***]
52. Providing prior notice to Customer of the maintenance to be performed during scheduled maintenance windows in accordance with the PIM. Changing scheduled maintenance windows at Customer's request and upon reasonable notice.	[***]
53. Scheduling outages for maintenance, expansions, and modifications during hours that meet Customer's business needs. Allowing Customer, at any time at its discretion, to specify "freeze" periods during which the Provider will not make any Changes.	[***]
54. If there is a need for emergency Systems maintenance, providing Customer with as much notice as reasonably practicable, and performing such maintenance so as to minimize interference with the business and operational needs of Customer.	[***]
55. Fully testing changes to the environment and resolving faults, if possible, prior to production startup, including inter-operability testing.	[***]

<b>Change Management Roles and Responsibilities</b>	<b>[***]</b>
56. Creating and maintaining a forward schedule of change of upcoming Releases and changes as part of the Change Management process in the PIM.	[***]
57. Providing monthly Change Management reports in a format agreed with Customer.	[***]
58. Providing a weekly report in a format agreed with Customer that, at a minimum, includes: the status of Services changes active at the beginning of the week and Services changes raised during the week; the Services changes to be implemented the following week; the Services changes submitted for approval.	[***]
59. Leading regularly scheduled Change Advisory Board meetings between Customer and Third-Party Supplier(s).	[***]
60. Participating in regularly scheduled Change Advisory Board meetings between Customer and Third-Party Supplier(s).	[***]
61. Reviewing proposed changes and schedules through a formal walk-through process with Customer and Third-Party Supplier(s), and necessary approvals for proposed changes, in accordance with the PIM.	[***]

(O) **Release Management**

- (1) Release Management Services are activities that take a holistic view of a change to a Service to ensure that technical and non-technical aspects of a release are considered together and to plan and oversee the successful rollout of Software, Equipment, and Infrastructure, including networks, websites and databases. Design and implement efficient procedures for distribution and installation of changes. The activities also provide that correct, authorized and tested versions are installed, and that changes are traceable and secure.
- (2) The following table identifies Release Management roles and responsibilities that Provider and Customer will perform, including:

<b>Release Management Roles and Responsibilities</b>	<b>[***]</b>
1. Communicating the Release Management process to the Provider's Staff, other Customer IT service departments and Third-Party Supplier(s).	[***]
2. Planning and overseeing the successful roll-out of new and changed Infrastructure-Released Software, as well as associated Equipment and Documentation, per Customer's specifications when required.	[***]
3. When required, provide Documentation specifications for roll-out of new and changed Infrastructure-Released Software, as well as associated Equipment.	[***]
4. Providing liaison with Change Management to agree on the exact content and roll-out plan for each Release.	[***]
5. Validating that items being rolled out or changed are secure and traceable via the CMDB.	[***]

<b>Release Management Roles and Responsibilities</b>	<b>[***]</b>
6. Managing Customers' and Authorized Users' expectations of Releases and roll-outs.	[***]
7. Attending Customer's Release Management weekly meeting.	[***]
8. Establishing a Release and distribution process so that Changes to the Services and Infrastructure-Released Software are controlled, tested, traceable, authorized, and implemented in a structured manner.	[***]
9. Producing Release impact assessments in support of Customer Release planning.	[***]
10. Developing implementation and back-out plans for Provider-managed change requests that will be included in a Release.	[***]
11. Building, testing, implementing, and, if necessary, backing out Releases.	[***]
12. Resolving Release issues associated with Provider-executed releases.	[***]
13. Assigning a single point of contact for each requested Release.	[***]
14. Providing proper testing for Releases going into the managed environments.	[***]
15. Managing the functions and work activities associated with Release Management, including: creating Release plans, and performing tracking and oversight functions to support the plan; coordinating the design, build, and configuration of the Release; coordinating Release acceptance activities with Customer; Developing and implementing rollout plan for the Release.	[***]
16. Developing and coordinating Release communications, preparation, and training activities.	[***]
17. Assist Customer in development and coordination of Release communications and preparation and attend training activities.	[***]
18. Coordinating distribution and installation of Releases.	[***]
19. Providing updates to Customer regarding Release status.	[***]
20. Reviewing changes and enhancements with the Authorized User to obtain sign-off.	[***]
21. Maintaining a secure audit trail of Releases.	[***]
22. Providing Customer with the reports and notices detailed in the Release Management process for each Release.	[***]
23. Verifying Projects are ready to move into Production.	[***]
24. Conducting the tests on Customer's standard suite of products including: COTS and custom-developed Applications, for compatibility; unit testing; Systems integration testing; LAN/WAN connectivity testing; load testing; Application inter-connectivity testing, which simulates Customer's production environment provided the tools and simulated environments are available in the Customer environment.	[***]
25. Coordinating the resolution of platform-integration-related issues with Applications development.	[***]
26. Validating compliance with the quality assurance procedures.	[***]
27. Utilizing validation and testing process.	[***]

<b>Release Management Roles and Responsibilities</b>	<b>[***]</b>
28. Developing the test plan and ensuring such plan addresses operational readiness, testing of any data conversion procedures, System performance, and System reliability, as may be applicable.	[***]
29. Performing unit testing.	[***]
30. Performing stress testing, including performance and volume testing.	[***]
31. Performing System testing.	[***]
32. Performing regression testing.	[***]
33. Performing functional testing of Provider initiated releases.	[***]
34. Assist in performing functional testing.	[***]
35. Providing Application inter-connectivity testing and network connectivity/communication testing.	[***]
36. Managing user acceptance testing (UAT).	[***]
37. Developing a user acceptance test structure to allow testing of Customer-provided test cases.	[***]
38. Implementing a matrix of user and design requirements to test cycles and scripts.	[***]
39. Coordinating user acceptance testing.	[***]
40. Completing required testing Documentation.	[***]
41. Developing and maintaining test data	[***]
42. Monitoring and reviewing production errors in order to improve test models over time.	[***]
43. Performing pilot implementation and support.	[***]
44. Logging test results for Releases except those related to UAT.	[***]
45. Logging UAT results.	[***]
46. Conducting a walk-through of test results with Customer.	[***]
47. Reviewing test results to ensure each test was both successfully executed and passed the success criteria established for that test.	[***]
48. Reviewing the stress test results to verify that the projected additional capacity fits within the projected capacity utilization.	[***]
49. Creating an Application-specific deployment guide for the transition walk-through with the Application maintenance team.	[***]
50. Providing knowledge transfer of learnings gained from the testing to the Application maintenance team.	[***]
51. Testing Applications for which the Provider has responsibility in support of Third-Party Supplier(s)'s System testing.	[***]



**Appendix 1**

**DEFINITIONS**

**to**

**Schedule 3**

**CROSS-FUNCTIONAL SERVICES TERMS**

“ **Additional Resource Charge** ” or “ **ARC** ” means the additional charge per Resource Unit, as set forth in **Exhibit B (Fees)** of a SOW, to Customer if Customer's usage of Resource Units in the category is above the applicable Baseline.

“ **Applications Software** ” or “ **Application** ” means the programs, including all supporting Documentation, source code, and media that: (1) perform specific data processing and telecommunication tasks and /or (2) Is used to perform business functions or business support functions.

“ **ASC** ” means the annual Fees, which will be prorated into monthly Fees, for the Baseline quantities of the Resource Units set forth in the Fees Exhibit for the Services.

“ **Assets** ” means Equipment, hardware, Software, and other Assets used in provision of the Services. Assets are considered in use as of the date of deployment.

“ **Asset Management** ” is the process used to maintain a record of the Assets including incoming and outgoing) for those environments which Provider is providing Services. This process includes tracking by Equipment location and providing necessary information to permit maintenance vendor coordination.

“ **Availability** ” means the percentage calculated by adding actual uptime and planned downtime, dividing the sum by the total hours in the period, and multiplying the result by 100.

“ **Availability Management** ” is the process for coordinating the appropriate skills, information, tools and procedures required to manage the Availability of interactive networks and their supporting hardware and software components.

“ **Baseline** ” set by the Parties for each Resource Unit for each Service as of the Effective Date is set forth in the **Fees Spreadsheet** for each SOW, and will be subject to any adjustments pursuant to **Exhibit B (Fees)** to each SOW.

“ **Cable(ing) and Wire(ing)** ” is any inside cable and inside wiring within a facility specified in the applicable SOW or Project required for connectivity up to the rack, which includes connectivity to the patch panel or any other demarc, where Provider will install Equipment.

“ **Capacity** ” is the maximum throughput that a Configuration Item or IT Service can deliver while meeting agreed levels of Service.

“ **Capacity Management** ” is the process for planning for adequate IT resources required to fulfill current and future resource requirements and includes planning for the efficient use of existing IT resources and identifying any change in the type and quantity of IT resources necessary to perform the Services.

“ **Change Management** ” is the process for planning, testing, coordinating, implementing and monitoring changes affecting Service delivery and the operating environments without adversely impacting Service delivery.

“ **Collaborative Applications** ” include Applications containing functionality to enable electronic communication and messaging; work group collaboration; information transfers; frequently-asked questions (FAQs); and similar Applications that allow collaborative interaction and receipt/transfer of data and information, both within and outside of Customer.

“ **Configuration Management** ” is the process for designing, planning, and maintaining the physical and logical configuration of the in-scope hardware and software as well as network components and the way these resources are interrelated in Customer’s environment.

“ **Customer Architecture Standards** ” means the design, process, strategies, and specification of Customer’s overall structure, logical components, and the logical interrelationships of Equipment and Software, including System Software, a Network, or other reasonably related conception.

“**Customer Facility**” means the facilities owned, managed, operated or leased by Customer and from which Service Provider will provide Services from, or to, in accordance with the applicable SOW, as specifically identified in **Exhibit I** (Service Locations) in each such SOW.

“ **End User Computing Equipment** ” means a unit of computing hardware, and its associated standard software image, that is used and interacted with by an Authorized User, including stationary, mobile, and hand-held computing components, including laptops, desktops, tablets, and mobile devices ( e.g. , mobile phones, PDAs, smartphones, pagers, Blackberries, etc.) and all components that are located within any such device ( e.g. , memory, internal disk drives, battery, etc.).

“ **Hard IMAC** ” means an approved IMAC request received from Customer, which requires Provider to dispatch a technician to the affected Site or Authorized User’s location in order to perform such required IMAC. A Hard IMAC will include a Soft IMAC, if necessary.

“ **High Availability**” (clusters) means, with respect to Servers, any redundant pair of such devices for which automatic fail over, load balancing, or clustering has been configured such that when one of the devices fails, Availability is provided by the other device with no loss of Availability to the Authorized User.

“ **IMAC**” (Install, Move, Add or Change) means an installation, move, add, change or de-installation of any computing System and/or telecommunications infrastructure components, including any device, System, Service, circuit or other Assets supported as part of the Services, including all functions, tasks and responsibilities required to conduct an installation, move, add, change or de-installation.

“ **Incident** ” means an unplanned interruption to an IT Service

“ **Incident Management** ” is the process for minimizing the impact of Incidents, which is accomplished through analysis, tracking, and prevention of Incidents.

“ **Infrastructure** ” means the entire portfolio of Equipment, System Software and Network components required for the integrated provision and operation of Customer Systems and Applications.

“ **IT Service Continuity Management** ” means the process of ensuring that identified IT Services will be available during abnormal situations. It typically involves a detailed assessment of the business risk of key IT Services being lost, and then identifies countermeasures and plans to prevent -- or recover from -- identified contingencies.

“ **Known Error Database**” (KEDB) means a repository containing all Known Error Records that includes data on the Configuration Items, symptoms, and resolution or circumvention actions relating to all Known Errors.

“ **Layer 2** ” means the data-link layer of the OSI Network Layer Reference Model.

“ **Layer 3** ” means the network layer of the OSI Network Layer Reference Model.

“ **Level 1 Support** ” means support that is provided as the entry point for Incidents, Service Requests and Problem reports from Authorized Users. If Level 1 personnel cannot Resolve the Incident, Service Request or Problem, the Incident, Service Request, or Problem will be directed to the appropriate Level 2 personnel or third party for Resolution.

“ **Level 2 Support** ” means support that serves as a consolidation point for Incidents, Service Requests and Problem reports between Level 1 and Level 3. If Level 2 personnel cannot Resolve the Incident, Service Request or Problem, then the Incident, Service Request or Problem will be directed to the appropriate Level 3 personnel or third party for Resolution.

“ **Level 3 Support** ” means support provided by Provider Staff or a third party that is most knowledgeable about the underlying Problem or question and that is utilized when efforts to Resolve the Problem or question by Level 1 and Level 2 Support have failed or are bypassed. Incidents, Service Requests and Problem reports are usually reported by Level 1 or Level 2 support personnel but may be initiated directly by Authorized Users or Provider.

“ **Major Incident** ” means an unplanned situation that impacts critical or essential Services causing severe disruption or extreme impact, resulting in such Services being unavailable.

“ **Managed Assets** ” means the Assets used to provide the Services managed in accordance with the Asset Management process.

“ **Messaging Services** ” means the provision and management of the Systems for transmission of electronic messages over a computer network using software that immediately displays the message in a chat window on the screen of the recipient.

“ **Mobility Services** ” means the Services and/or capabilities provided to, and for, personal handheld End User Computing Equipment (i.e., mobile phone), digital tablets, or wearable digital devices (if and when such wearable digital devices are added pursuant Change Control Procedures) to access and/or interact with Customer Data. This includes Services provided to both Customer purchased/fully managed End User Computing Equipment, as well as, independently/individually/personally owned End User Computing Equipment.

“ **Network** ” comprises the WAN, LAN and Wireless LAN Equipment, circuits and software that Customer uses for its internal communications.

“ **Priority Level** ” (also known as “ **Severity Level** ”) means the priority designation assigned to a problem call.

“ **Priority 1** ” means an outage causing severe impact on a “Critical” or “Foundational” Application, as recorded in the CMDB (Tier Field).

“ **Priority 2** ” means degraded performance for a critical app or an outage for an essential app, as recorded in the CMDB (Tier Field).

“ **Priority 3** ” means either impacting an individual Authorized User or utility Application.

“ **Priority 4** ” means an individual request for an item not defined within ServiceNow.

“ **Problem** ” means the underlying cause of one or more Incidents, including where such cause is unknown or where it is known and a temporary work-around or permanent alternative has been identified.

“ **Problem Management** ” is the process for identifying, recording, tracking, correcting and managing Problems impacting Service delivery, recognizing recurring Problems, addressing procedural issues and containing or minimizing the impact of problems that occur.

“ **Project** ” means work requested by Customer after the Effective Date that (a) is discrete and non-recurring; (b) is not required for Provider to meet Provider’s other obligations under this MSA, including meeting the Service Levels; and (c) requires planning, start-up, execution, and closure.

“ **Reduced Resource Credit** ” or “ **RRC** ” means the credit per Resource Unit, as set forth in **Exhibit B** (Fees) of a SOW, to Customer if Customer’s usage of Resource Units in the category is less than the applicable Baseline.

“ **Refresh** ” means the periodic replacement of Equipment to ensure continuing reliability of Equipment and/or improved speed and capacity or a scheduled technology change of existing Equipment and includes configuration, IMAC activity, data migration and testing.

“ **Release(s)** ” means a collection of hardware, software, Documentation, processes, or other components required to implement one or more approved Changes to IT Services.

“ **Release Management** ” means the process responsible for planning, scheduling, and controlling the movement of Releases to Test and Production Environments.

“ **Resolution** ” means to repair, replace, reconfigure, reinstall, re-route, or otherwise provide a complete solution to an Incident or a Problem that returns the System and/or Authorized User(s) to non-degraded full functionality. Implementing a workaround is a partial or temporary Resolution.

“ **Resource Baseline** ” or “ **RU** ” for each applicable Service, a unit of resource for which Customer and Provider have established a fixed price and a Baseline. The fixed price amount and Baseline for each Resource Unit is set forth in

the **Fees Spreadsheet** for each SOW. The definition and measurement interval for each type of Resource Unit is set forth in **Appendix 1** (Resource Unit Definitions) to **Exhibit B** (Fees) of each SOW.

“**Root Cause Analysis**” is a Problem management analysis process used in determining and documenting the unknown underlying cause(s) ( e.g. , root causes) of one or more Incidents so that appropriate actions are taken to correct the situation to minimize the possibility of recurrence of the Incident(s) or events.

“**Service Level Effective Date**” means, with respect to each Service Level other than Service Levels established pursuant to **Section 3.2(A)** (Service Levels for Services with Existing Service Performance Data), the date that such Service Level will be effective and enforced, which shall be the date that is the first day of the month following completion of the Baseline Period or such other date agreed by the Parties.

“**Service Request**” means a request from an Authorized User for information, or advice, or for a standard change or for access to an IT Service, such as to reset a password or to provide standard IT services for a new Authorized User.

“**Soft IMAC**” means an approved Software IMAC request received from Customer, which can be performed concurrently with remote element management tools and does not require any physical on-site intervention. A Software patch or error correction upgrade will not be considered as a Soft IMAC.

“**Software**” means computer software, including object, executable or binary code, screens, user interfaces, data structures, data libraries, definition libraries, templates, menus, buttons and icons, and all files, data, and manuals, and with respect to Applications Software, Infrastructure Software, or Systems Software, only to the extent generally commercially available to end users, also including source code, comments design notes and other items and Documentation related thereto or associated therewith.

“**Software Providers**” means Third-Party suppliers of Software.

“**Standard Products**” the hardware and software for which Provider will provide the End User Services.

“**System Software**” means the control programs that manage computer resources and enable an individual computing device to function, and includes operating Systems, device drivers, firmware and all utility programs. For clarity, System Software does not include Applications or Middleware.

“**Third-Party Suppliers**” (also referred to as “**Third-Party Providers**”) means a third party that provides Customer with products or services that are related to, or in support of, the Services. Subcontractors of Provider are not “Third-Party Providers.”

“**Unpaid Amortized Charges**” means those Charges that Provider has amortized over the Term, but that have not been paid by Customer at the time of termination or expiration.

“**Voice Services**” or “**Voice**” means Skype for business service or a similar tool.

## SCHEDULE 4

### TERMINATION ASSISTANCE

This is **Schedule 4** (Termination Assistance) (this “**Schedule**”), to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA. For the purposes of Termination Assistance Services, all references to “Customer” in this **Schedule 4** (Termination Assistance) will mean Customer, its successors, and any of its designees, and any New Provider (defined below) of the Services.

#### 1. DEFINITIONS

“**Available Contract(s)**” means contracts (other than contracts of employment or engagement, in the case of individual contractors but including licenses for Available Third-Party Software) to which Provider is a party, which are used to provide the Removed Services and which either (A) the Parties agree in the Disengagement Plan should be Available Contracts, or (B) in the absence of agreement, contracts which fall into any of the following categories:

- (1) Transfer Contracts and Subsequent Transfer Contracts (each, as defined in any Resource Transfer Agreement) (to the extent such contracts relate solely to the provision of the Removed Services);
- (2) contracts which replace Transfer Contracts or Subsequent Transfer Contracts (to the extent such contracts relate solely to the provision of the Removed Services); and
- (3) other contracts, the subject matter of which is used wholly or mainly in the provision of the Removed Services,

in each case in (1) through (3), other than contracts that relate wholly or mainly to the maintenance, support, operation or development of (a) Systems that are not Available Systems or (b) a Shared Service Delivery Environment;

“**Available Employee(s)**” has the meaning given to it in **Section 2.5(F)(1)** of this Schedule;

“**Available System(s)**” means Provider Systems which are used wholly or mainly to provide the Removed Services and which either (A) the Parties agree (in the Disengagement Plan) should be Available Systems, or (B) in the absence of agreement, which fall into any of the following categories:

- (1) Transfer Assets and Subsequent Transfer Assets (each, as defined in any Resource Transfer Agreement);
- (2) Provider’s Customer Site Equipment; and
- (3) other Provider Systems,

in each case to the extent that they were used wholly or mainly in the provision of the Removed Services;

“ **Available Third-Party Software** ” means Provider Third-Party Software (other than Excluded Software) that is used wholly or mainly in the provision of the Removed Services;

“ **Commercially Available Provider Property** ” means Provider Property that is, at the time that it is introduced, delivered or used in the provision of the Services, licensed generally to the public as a commercially available product by Provider or Provider Agents in the ordinary course of business, on standard terms and conditions;

“ **Critical Exit Deliverable** ” means a critical deliverable to be provided by Provider as part of the Termination Assistance Services, as identified in the Specific Disengagement Plan;

“ **Critical Services** ” has the meaning given to it in **Section 3.4** of this Schedule;

“ **Employment Liabilities** ” means all liabilities, compensation, awards, penalties, costs (including the cost of wages, salaries and other remuneration or benefits (including penalties and interest), social insurance, contributions, universal social charges, health contributions, levies, losses, claims, demands, actions, fines, damages, and reasonable expenses (including reasonable legal costs), or other payments however arising which are connected with or arising from contract or all and any Laws, including directives, statutes, secondary legislation, orders, codes of practice and common law, whether of the European Community, the Republic of Ireland, the United Kingdom or other jurisdictions, relating to or connected with the employment of employees or the engagement of other workers, including in each case their health and safety at work.

“ **Excluded Software** ” means software programs owned by a third party and used by Provider or Provider Agents to provide Removed Services that are generally commercially available in the form in which they are used in connection with the performance of Provider’s obligations under this Agreement, (A) used in a Shared Service Delivery Environment, or (B) in respect of which Provider has notified Customer in writing that this is the case, on the understanding that such software would not be assignable or otherwise transferable to a member of Customer Group upon termination or expiration of the Agreement;

“ **Exit License Third-Party Software** ” means, in relation to an expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement, software that is Available Third-Party Software at the Start of the Termination Assistance Period and which is identified as Exit License Third-Party Software in a purchase notice under **Section 5.1** of this Schedule or in relation to which Customer separately gives Provider reasonable notice (but at least [\*\*\*] days before the Exit Service Transfer Time) that it wishes it to be Exit License Third-Party Software;

“ **Exit Payments** ” has the meaning given to it in **Section 12.1** of this Schedule.

“ **Exit Service Transfer Time** ” means the time specified as such in the Specific Disengagement Plan prepared and agreed by the Parties in contemplation of the termination (in whole or in part) or expiration of, or an insourcing or resourcing in respect of, this Agreement, or if no such time is specified,

- (1) if this Agreement expires, the time of expiration;
- (2) if this Agreement is terminated, in whole or in part, the time that Customer specifies, which will be no later than the expiration of the Termination Assistance Period; and
- (3) if there is an insourcing or resourcing in respect of this Agreement, the date upon which Customer notifies Provider such insourcing or resourcing will commence.

“ **Exit Transfer Contract(s)** ” means, in relation to an expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement, contracts which are Available Contracts at the Start of the Termination Assistance Period and which are identified as Exit Transfer Contracts in a purchase notice under **Section 5.1** of this Schedule or contracts which are Available Contracts and in relation to which Customer separately gives Provider reasonable notice (but at least [\*\*\*] days before the Exit Service Transfer Time) that it wishes them to be Exit Transfer Contracts;

“ **Exit Transfer Contractor** ” means those independent contractors whose services are provided to Provider or Provider Agents pursuant to an Exit Transfer Contract;

“ **Exit Transfer Systems** ” means, in relation to an expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement, Systems which are Available Systems at the Start of the Termination Assistance Period and that are identified in a purchase notice under **Section 5.1** of this Schedule or Available Systems in relation to which Customer separately gives Provider reasonable notice (at least [\*\*\*] days before but before the Exit Service Transfer Time) that it wishes them to be Exit Transfer Systems;

“ **Expected Removed Services Position(s)** ” means the positions fulfilled in the provision of the Removed Services as well as the number of Provider Staff in those positions which are listed in the Specific Disengagement Plan;

“ **Depreciation Method** ” means the method of depreciation which applies to all assets of which an Available System, Available Contract, item of Commercially Available Provider Property or Available Third-Party Software consists;

“ **Final Exit Date** ” means, in respect of each Removed Service, the date on which all aspects of the Specific Disengagement Plan have finally been implemented, being the date on which the Parties have fulfilled all of their obligations under that Specific Disengagement Plan;

“ **New Provider** ” means a supplier, other than Provider, to whom Customer intends to transfer the provision of some or all of the Removed Services, as well as any subsequent suppliers of likewise services;

“ **Non-Critical Services** ” has the meaning given to it in **Section 3.4(A)** of this Schedule;

“ **Non-Transfer Jurisdiction Exit Transfer Employee** ” has the meaning given to it in **Section 4.5** of this Schedule;



“ **Non-Transfer Jurisdiction(s)** ” means those jurisdictions in which the Transfer Legislation does not apply;

“ **Performance Credit** ” means the discount on the Fees payable for a Critical Exit Deliverable to be given by Provider for failure to deliver a Critical Exit Deliverable in accordance with the Specific Disengagement Plan;

“ **Permitted Exit Purposes** ” means the supply of services similar to the Removed Services to members of Customer Group, Authorized Users and any other Person that is permitted to receive the benefit of the Services under the Agreement;

“ **Planned Final Exit Date** ” means the date specified as such in a Specific Disengagement Plan by which the Parties intend that Specific Disengagement Plan to be finally implemented;

“ **Provider’s Customer Site Equipment** ” means such of the Transfer Assets and the other Provider Equipment provided by Provider or Provider Agents that are (A) used solely to provide the Services and (B) located at a member of Customer Group’s facilities from time to time;

“ **Provider’s Customer Site Exit Equipment** ” means such of Provider Customer Site Equipment that was used solely to provide the Removed Services;

“ **Relevant Software** ” has the meaning given to it in **Section 9.1** of this Schedule;

“ **Removed Service(s)** ” means the Services that Provider is to cease supplying to Customer under this Agreement as a result of an expiration or partial or full termination of, or an insourcing or resourcing in respect of this Agreement;

“ **Removed Services Employees** ” means those Provider Staff (excluding agents and individual contractors) who are wholly or mainly engaged in the provision of the Removed Services and who are fulfilling Expected Removed Services Positions as per the Exit Service Transfer Time;

“ **Resource Transfer Agreement** ” means each agreement separately entered into by the Parties in connection with this Agreement pursuant to which assets are transferred, for example a purchase and sale agreement (if applicable);

“ **Specific Disengagement Plan** ” means a specific Disengagement Plan to be prepared by Provider under **Section 3.3** of this Schedule in the event of the expiration or termination (in whole or in part), or an insourcing or resourcing in respect, of this Agreement;

“ **Start of the Termination Assistance Period** ” means the date Customer notifies Provider upon which there will be an expiration or termination of, or an insourcing or resourcing in respect of, the Agreement.

“ **Subcontract** ” means a subcontract of any of Provider’s obligations under this Agreement (including a subcontract granted by a Provider Agent);

“ **Supply Contract** ” means a contract or license, other than a Subcontract, under which Provider or Provider Agents obtains Provider Systems (or the right to use Provider Systems) necessary to the performance of Provider’s obligations under the Agreement;

“ **Transfer Asset(s)** ” and “ **Subsequent Transfer Asset(s)** ” means each asset defined as such under any Resource Transfer Agreement;

“ **Transfer Contract(s)** ” and “ **Subsequent Transfer Contract(s)** ” means each agreement defined as such under any Resource Transfer Agreement;

“ **Transfer Jurisdiction(s)** ” means those jurisdictions in which the Transfer Legislation applies; and

“ **Transfer Legislation** ” means the Transfer of Undertakings (Protection of Employment) Regulations 2006, European Communities (Protection of Employees on Transfer of Undertakings Regulations 2003, the EU Acquired Rights Directive, or similar Law anywhere in the world which provides for the automatic transfer of workers in connection with the transfer of a business or change in service provider.

In this Schedule, a reference to a partial termination of the Agreement includes the removal of a Service.

## 2. THE DISENGAGEMENT PLAN

- 2.1 Provider will prepare the Disengagement Plan for each SOW pursuant to **Section 20.1** (Termination Assistance Services) of the MSA and deliver it to Customer as set forth therein. The parties will agree upon the content, effectiveness, accurateness and completeness of the Disengagement Plan and the information provided therein. Provision of Termination Assistance will not be complete until all tasks and Deliverables set forth in the applicable Disengagement Plan have been completed.
- 2.2 Provider will notify Customer of any known or reasonably foreseeable significant risk factors relating to the transfer of any terminated Services.
- 2.3 Reserved.
- 2.4 The Parties may jointly review the draft Disengagement Plan agreed to by Customer no less than [\*\*\*] months prior to the date on which the next Disengagement Plan is to be delivered by Provider pursuant to **Section 2.1** . The conduct of such review, or the absence thereof, does not affect Provider’s obligations pursuant to this Schedule.
- 2.5 In addition to any and all requirements set forth in the MSA, Provider will ensure that each Disengagement Plan:
- (A) sets out a reasonably detailed set of timetables, procedures, and arrangements for the transfer of the provision of any or all of the Services from Provider or Provider Agents to Customer or one or more New Providers or to a combination of Customer and New Providers, with a view to eliminating or minimizing any disruption to or deterioration of the provision of services similar to the Services and other information technology services to, and businesses of, Customer as a result of the expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement;

- (B) sets out in relation to each item of Provider Software used in the performance of Provider's obligations under the Agreement, the arrangements (if any) in relation to the licensed code and related documents which apply to that item;
- (C) includes complete and accurate lists of all Available Systems and Available Contracts and items of Commercially Available Provider Property and Available Third-Party Software, including:
  - (1) a brief description of the role of that Available System or Available Contract or item of Commercially Available Provider Property or Available Third-Party Software in the performance of Provider's obligations under this Agreement;
  - (2) in respect of the Available Systems, an asset ledger setting out the date of acquisition and the current net book value of each individual asset of which the Available Systems consist; and
  - (3) in respect of each of the Available Contracts, the Commercially Available Provider Property and the Available Third-Party Software, an overview of each of them and their respective value;
- (D) includes an accurate list of maintenance contracts among Provider, Provider Agents, and Customer Group where Provider or Provider Agents have offered software maintenance to Customer Group and which are Available Contracts;
- (E) and (only with respect to a Specific Disengagement Plan and at the cost of Provider) includes complete and accurate lists of all Provider Systems other than Available Systems and contracts other than Available Contracts and items of non-Commercially Available Provider Property and Third-Party Software other than Available Third-Party Software, with a brief description of the role of such system, contract or item of non-Commercially Available Provider Property or such Third-Party Software in the performance of Provider's obligations under this Agreement, necessary to provide for a continuation of the Services;
- (F) includes the following information on Provider Staff:
  - (1) the number, positions and/or job functions of dedicated Provider Staff and Affected Employees still engaged in the performance of the Services (collectively, "**Available Employees**"), a brief description of each such position and/or job function, an indication of the amount of working time spent in that position/function and the locations of all Provider Staff; and
  - (2) the names and positions/job functions of each individual who is determined a member of the Key Personnel. Provider will use its best efforts to obtain, if required pursuant to, and in accordance with, applicable data protection Laws, the express consent of such Key Personnel to include this information in the Disengagement Plan.

- (G) includes a list of positions and/or job functions that are required to provide the Termination Assistance Services, a brief description of each such position and/or job function and an indication of the amount of working time to be spend in that position and/or function in connection with the Termination Assistance Services;
- (H) sets out activities to be performed by Provider during the Termination Assistance Period to effect a smooth transfer of operational responsibilities for the Removed Services, which include at minimum:
  - (1) documenting and delivering to Customer object libraries, reference files and software tools used to provide the Removed Services;
  - (2) delivering to Customer the existing systems support profiles, monitoring or system logs, problem tracking and resolution documentation and status reports;
  - (3) providing to Customer work volumes, staffing requirements and actual Service Levels achieved and information on historical performance for each Removed Service component over the preceding twelve (12) months;
  - (4) with respect to work in progress for each Removed Service at the end of the Termination Assistance Period, documenting and delivering to Customer the current status of such work, stabilizing such work for continuity during transition and providing any required training to achieve transfer of responsibility without loss of momentum or any adverse impact on project timetables, or providing a mutually agreeable bridge services agreement to complete essential projects after the effective date of expiration or termination the Term and the Termination Assistance Period; and
  - (5) providing Customer with any problem logs, if any, that have not been previously provided to Customer in respect of the one-year period prior to the end of the Termination Assistance Period;
- (I) and
  - (1) is in English and in language likely to be readily comprehensible to such members of Customer's operational, management and technical staff who are reasonably capable in relation to the operational, technical and other elements of the kind that are relevant to the Removed Services and are involved in the exit transfer arrangements;
  - (2) provides sufficient detail enough to allow partial termination of the Services and the continued provision of other Services not the subject of partial termination;
  - (3) specifies those measures which are necessary to minimize, so far as Provider is reasonably able to assess, any disruption to the businesses of Customer as a result of the expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement; and

- (4) provides estimated time periods by which Provider reasonably believes the provision of the Removed Services should have migrated to Customer or a New Provider, as the case may be, and sets out the assumptions upon which such estimates are based.

- 2.6** As part of the Disengagement Plan, Provider will provide a transition plan with a list of activities to be performed by Customer and/or New Provider and Provider during the Termination Assistance Period to effect a smooth transfer of operational responsibilities for the Services, and which sets out any other information as reasonably required by Customer relevant to the potential transitioning of Services prior to the Disengagement Plan being developed or updated.
- 2.7** Provider will clearly mark the changes it has made in the updated Disengagement Plan, if one is prepared, compared to the previous Disengagement Plan. Provider will provide such mark-up together with an explanation of the changes to Customer in writing simultaneously with the submission of the updated version of the Disengagement Plan.
- 2.8** Each Party has the rights and obligations allocated to it in any Specific Disengagement Plan, once it has been agreed and signed on behalf of both Parties. If there is any conflict or inconsistency between this Schedule and any Specific Disengagement Plan, the Specific Disengagement Plan will prevail. The provisions of this Schedule will apply in relation to the expiration or a termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement irrespective of whether the Parties agree a Specific Disengagement Plan.
- 2.9** Provider will promptly provide Customer with such information as Customer reasonably requests and Provider or Provider Agents are reasonably able to provide in relation to the Available Systems, Available Contracts, Commercially Available Provider Property, Available Third-Party Software and Available Employees identified in the Disengagement Plan from time to time.
- 2.10** Provider will, on request, provide to or make available to Customer a copy of any document in possession or control of Provider and not provided to or in possession of Customer which is referred to in the Disengagement Plan, unless the Disengagement Plan specifies that such document will not be disclosed by Provider and provides reasonable justification for such non-disclosure.
- 2.11** Provider acknowledges that Customer is entitled to rely upon the accuracy of information and disclose the Disengagement Plan, as well as such information included in the Disengagement Plan or provided in the preparation and distribution of requests for proposals, requests for quotations, agreements and other documents for potential New Providers. Provider must make all necessary inquiries to fulfill its obligations under this Schedule and provide sufficient and accurate information for inclusion in the Disengagement Plan.

**3. TERMINATION PLANNING**

- 3.1** Promptly following the Start of the Termination Assistance Period, the Parties and the New Provider(s) will meet to begin planning for the execution of the Termination Assistance Plan and the migration of the Removed Services to Customer and/or one or more New Providers.
- 3.2** Provider will develop a Specific Disengagement Plan acceptable to Customer within [\*\*\*] business days of the Start of the Termination Assistance Period.

- 3.3** Except to the extent that the Parties agree otherwise in writing, Provider will ensure that the Specific Disengagement Plan meets the requirements set out in this Schedule above, as well as the following additional requirements. The Specific Disengagement Plan must:
- (A) identify the Critical Exit Deliverables, associated performance criteria and set out the relevant Performance Credits, in each case to the extent applicable;
  - (B) specify the Exit Service Transfer Time;
  - (C) specify the Planned Final Exit Date;
  - (D) specify the details of any alternative services (if any) to be provided by Provider in substitution for the Removed Services;
  - (E) specify a timetable, process and critical controls for conducting the Termination Assistance Services;
  - (F) reflect the matters notified to Provider and/or agreed by the Parties under **Sections 3.4 to 3.6** below;
  - (G) include the following information on Expected Removed Services Positions:
    - (1) a complete and accurate list of Available Employees who fulfill an Expected Removed Services Position, including the positions and/or job functions, brief description of each such position and/or job function, location, date of commencement of employment or engagement, salaries, benefits, pension entitlements and other compensation, indication of the amount of working time spent in a position/function; and
    - (2) the names, job functions, titles and all individual terms and conditions of employment or engagement of each Available Employee who fulfills an Expected Removed Services Position and who is identified as Key Personnel in the applicable SOW. Provider will use commercially reasonable efforts to obtain, if required pursuant to, and in accordance with, applicable data protection Laws, the express consent of such Key Personnel to include such information in the Specific Disengagement Plan; and
    - (3) the numbers of such Key Personnel in: (i) Transfer Jurisdictions and (ii) Non-Transfer Jurisdictions, and in each case also indicating the relevant Transfer Jurisdiction or Non-Transfer Jurisdiction, as the case may be;
  - (H) include a complete and accurate list of all Available Employees who fulfill an Expected Removed Services Position. Provider will use commercially reasonable efforts to obtain, if required pursuant to, and in accordance with, applicable data protection Laws, the express consent of such personnel to include, share and distribute such information in the Specific Disengagement Plan; and
  - (I) reflect such other information reasonably requested by Customer.

- 3.4** Following the Start of the Termination Assistance Period, Customer will identify and notify Provider of which of the Removed Services it deems critical for the purpose of this Schedule (“ **Critical Services** ”), and the extent to which Customer:
- (A) where the Agreement (or any part thereof) has been terminated (as opposed to expiration of the Agreement), requires Provider to perform the other Removed Services (“ **Non-Critical Services** ”); and
  - (B) requires the Service Levels to continue to apply as they applied in accordance with the provisions of this Agreement in respect of the Services identified as Critical Services and the Non-Critical Services during the Termination Assistance Period.
- 3.5** Within [\*\*\*] business days of being notified of the Critical Services, Provider will identify Provider Staff and resources which are:
- (A) required in order to ensure the provision of the Critical Services and Non-Critical Services in accordance with Customer’s Service Level requirements; and
  - (B) not required under **Section 3.5(A)** above and are available to perform Termination Assistance Services.
- 3.6** Within [\*\*\*] business days of the Start of the Termination Assistance Period:
- (A) the Parties will use commercially reasonable efforts to agree to the allocation of Provider Staff and resources referred to in **Section 3.5** above; and
  - (B) the Parties will use commercially reasonable efforts to agree to the extent to which additional resources are required for the performance of Critical Services and non-Critical Services (to make Provider Staff and resources available for Termination Assistance Services that have sufficient knowledge of the Critical Services and Non-Critical Services) and Termination Assistance Services during the Termination Assistance Period, it being agreed that the rates at which any such additional resources will be charged to Customer will follow the normal charging methods previously agreed between the Parties, applying any applicable agreed cost standards set forth in the Agreement.
- 3.7** Provider agrees that Provider Staff fulfilling positions as listed in the Specific Disengagement Plan will continue to provide the Services during the Termination Assistance Period. The involvement of other Provider Staff to provide the Services during the Termination Assistance Period will be subject to agreement between the Parties taking into account that Provider may require such other Provider Staff to meet the Service Levels.
- 3.8** Customer or its Affiliates will be permitted to solicit and hire any Provider Staff that have been dedicated to, or have been performing work primarily for Customer, the terminated Services as of the date of Start of the Termination Assistance Period. Provider will not interfere with Customer’s efforts, will not enforce any restrictions imposed on such Provider Staff by agreement or policy ( *i.e.* , employment contract or covenant) which would interfere with Customer’s efforts, and will provide Customer reasonable access to such Provider Staff for the purposes of interviews, evaluations and recruitment. Any such employment by Customer would

not be effective until the end of the applicable Termination Assistance Period unless otherwise agreed by the Parties.

**4. TERMINATION ASSISTANCE PERIOD**

- 4.1** Provider will, during the Termination Assistance Period, perform and observe its obligations under or in connection with the employment or engagement of each member of Provider Staff who fulfills an Expected Removed Services Position, whether arising under contract, applicable Law or in the ordinary and usual course of business.
- 4.2** Provider will during the Termination Assistance Period, other than with the prior written consent of Customer, not:
- (A) make or propose any material change to the terms and conditions of employment or engagement of any member of Provider Staff which fulfills an Expected Removed Services Position, unless required by or provided for in any collective (labor) agreement or under any contract of employment or engagement or in the ordinary and usual course of business; or
  - (B) make any changes to the duties or involvement or engagement in the provision of the Removed Services by any member of Provider Staff that fulfills an Expected Removed Services Position (other than to achieve the performance of an obligation under the Agreement);
  - (C) except for any changes which are made in the ordinary and usual course of business, assign an employee, who is not a member of Provider Staff which fulfills an Expected Removed Services Position, to the provision of the Removed Services and Customer will not unreasonably withhold or delay its consent; or
  - (D) except for any changes which are made in the ordinary and usual course of business, assign a member of Provider Staff which fulfills an Expected Removed Services Position to the provision of services which do not form part of the Removed Services and Customer will not unreasonably withhold or delay its consent.
- 4.3** During the Termination Assistance Period, Customer and/or New Provider(s) will not announce or propose any change to the terms and conditions of employment of a Removed Services Employee after the Exit Service Transfer Time, unless the Parties have fulfilled and finalized any local statutory or contractual obligation to consult with the relevant local works council, trade unions and other relevant employee representative bodies in a manner satisfactory to the Parties.
- 4.4** During the Termination Assistance Period, but at least [\*\*\*] weeks before Exit Service Transfer Time Provider will provide to Customer and/or New Provider(s) the names of each Removed Services Employee together with full details of all their terms and conditions of employment and any other information required by Customer and/or the New Provider(s).
- 4.5** At any time during the Termination Assistance Period but not later than [\*\*\*] days prior to the Exit Service Transfer Time, Customer and/or New Provider(s) may inform Provider (in respect of member of Provider Staff(s) in any of the Non-Transfer Jurisdictions) of the number, if any, and specific positions of those Available Employees who fulfill an Expected Removed Services Position, who Customer and/or New Provider(s) may



wish to employ in view of their staffing needs to perform the Removed Services (“**Non-Transfer Jurisdiction Exit Transfer Employees**”).

**4.6** In Transfer Jurisdictions, Provider will during the Termination Assistance Period (provided such Termination Assistance Period commences following the termination of the Agreement for reason other than Force Majeure) at the request of Customer use commercially reasonable efforts to redeploy Removed Services Employees to accounts other than Customer’s account prior to the end of the Termination Assistance Period. Should such redeployment not be successful, legal obligations to transfer staff from Provider to Customer remain in effect.

**5. SALE AND PURCHASE OF EXIT TRANSFER SYSTEMS**

**5.1** In relation to each expiration, partial termination or termination of, or an insourcing or resourcing in respect of, this Agreement, Customer will have the option, exercisable by [\*\*\*] days’ prior written notice to Provider at any time before the Exit Service Transfer Time, to buy (or, in relation to a particular Provider System, ensure that a New Provider buys) and Provider will (if the option is exercised) sell, (or in relation to a particular Provider System, ensure that the relevant Provider Agent sells) with effect from the Exit Service Transfer Time, the Exit Transfer Systems constituting Equipment owned by Provider and Provider Agents (and in the case of partial termination only those Exit Transfer Systems constituting Equipment which are used wholly or mainly to provide the Services which are the subject of the partial termination). Customer will seek in its notice to identify all such Exit Transfer Systems and Exit Transfer Contracts.

**5.2** In consideration for each sale of an Exit Transfer System made under **Section 5.1** , Customer will in the case of expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement pay to Provider the current net book value (depreciated consistent with the Depreciation Method) of that Exit Transfer System, to be invoiced at or after completion of the sale and purchase of that Exit Transfer System.

**5.3** Provider will (or will procure that its Provider Agents will), in the event that Customer exercises its option described in **Section 5.1** or purchases the Exit Transfer Systems under **Section 5.4** , provide unqualified warranties in favor of Customer or New Provider (as the case may be) in respect of the Exit Transfer Systems, to the effect that:

- (A) Provider or Provider Agent (as the case may be) has good and valid legal title to the Exit Transfer Systems and all components thereof; and
- (B) Except for those exceptions previously approved by Customer in writing, the Exit Transfer Systems and all components thereof are eligible for manufacturers’ recommended maintenance without any additional expenditure (other than standard maintenance charges for the period commencing as of the completion of the transfer of the relevant Exit Transfer System) or repair required.

**5.4** In respect of:

- (A) any Exit Transfer System constituting Equipment that is leased by Provider from a Provider Agent; and

- (B) any Provider System constituting Equipment that is leased by Provider or Provider Agent from a third party and that would fall within the definition of an Exit Transfer System if it were owned by Provider or a Provider Agent,

if requested by Customer and at Customer's option, Provider will transfer or assign the relevant Exit Transfer Contract to Customer in accordance with the provisions of **Section 7** below, or exercise any option it may have under the Exit Transfer Contract to purchase the Exit Transfer System, and sell the Exit Transfer System to Customer in accordance with the provisions of this Schedule at the option exercise price.

- 5.5** Where, in respect of any Exit Transfer Asset, a member of Customer Group has during the Term paid to Provider a one-time charge relating to the maintenance of, or warranty given by a supplier in respect of, such Exit Transfer Asset, Provider will ensure that the member of Customer Group acquiring such Exit Transfer Asset receives at no additional cost the benefit of any portion of such maintenance or warranty that relates to the period beyond the Term.

## **6. EXIT TRANSFER COMPLETION**

- 6.1** The Parties will ensure that completion of the sale and purchase of such Exit Transfer Systems takes place at such place as the Parties may reasonably agree (in the purchase notice or otherwise by reasonable notice to Provider) immediately before and with effect from the Exit Service Transfer Time.
- 6.2** Subject to the provisions of the Disengagement Plan, at such completion, Provider will give Customer (or the relevant New Provider) possession of the Exit Transfer Systems. Provider will leave those Exit Transfer Systems which are Provider's Customer Site Exit Equipment at the premises at which they have been used in the provision of the Removed Services (and other Exit Transfer Systems will, at completion and at the cost of Customer, be disconnected and delivered and installed at the premises of Customer or the New Provider or at a location otherwise agreed by Provider and Customer).
- 6.3** Risk in each Exit Transfer System will pass to Customer (or the relevant New Provider) at delivery of the Exit Transfer Systems in accordance with **Section 6.2** above (provided that the risk in Provider's Customer Site Exit Equipment will pass to Customer (or the relevant New Provider) at completion of the sale), but title to each Exit Transfer System will not pass to Customer or New Provider until Customer or New Provider has paid the amount specified in **Sections 5.2 or 5.4** in relation to that Provider System to Provider in full.

## **7. EXIT TRANSFER CONTRACTS: NOVATION, ASSIGNMENT OR TRANSFER**

- 7.1** Where:
- (A) Provider is entitled to transfer, or (to the extent permitted under applicable Law) assign both the benefit and the burden of, an Exit Transfer Contract to Customer or a New Provider nominated by Customer in relation to that Exit Transfer Contract without breach of that Exit Transfer Contract; and

- (B) no provision in that Exit Transfer Contract would, following such transfer or assignment, prohibit or seriously restrict the use by Customer or New Provider of the subject matter of that Exit Transfer Contract,

Provider will, subject to **Section 7.4**, as the case may be, transfer or (to the extent permitted under applicable Law) assign both the benefit and the burden of that Exit Transfer Contract to Customer or that New Provider at the Exit Service Transfer Time.

**7.2** In relation to each Exit Transfer Contract to which **Section 7.1** does not apply as a result of the parties' inability to obtain rights to transfer or re-transfer (as the case may be), unless the Parties agree otherwise in writing, Provider, with the reasonable assistance of Customer (which reasonable assistance will include the execution by Customer of such documentation as may be reasonably required to affect the arrangements described below), will, subject to **Section 7.4**, use its reasonable efforts to ensure, at Customer's option, that the benefit and burden of the relevant Exit Transfer Contracts are transferred to Customer by one of the following methods:

(A) **Novation**

Each other party to the Exit Transfer Contract agrees to the termination of all of Provider's rights and obligations (other than accrued rights to make any claim for damages or accrued rights under any indemnity) under the Exit Transfer Contract and the simultaneous assumption by Customer (or a New Provider nominated by Customer in relation to the Exit Transfer Contract) of identical rights and obligations, and if this agreement is obtained the parties will ensure that the termination and assumption promptly takes place.

(B) **Assignment**

To the extent permitted under applicable Law, each other party to the Exit Transfer Contract consents to the assignment of all of Provider's rights (other than accrued rights) and obligations under the Exit Transfer Contract to Customer (or a New Provider nominated in relation to the Exit Transfer Contract), and if this consent is obtained Provider will promptly make the assignment.

(C) **Transfer**

Each other party to the Exit Transfer Contract consents to the transfer of that Exit Transfer Contract to Customer (or a New Provider nominated in relation to the Exit Transfer Contract) and if this consent is obtained Provider will ensure that the transfer promptly takes place.

OR

(D) **Right to use**

Each other party to the Exit Transfer Contract consents to the reasonable use of the subject matter of the Exit Transfer Contract by Customer or New Provider to the extent required in connection with the Removed Services.

- 7.3** From the Exit Service Transfer Time until (if at all) such termination and assumption or assignment takes effect, Provider will take each step reasonably requested of it by Customer or any New Provider nominated by Customer in relation to the Exit Transfer Contract to enable performance of the Exit Transfer Contract and to provide for Customer or New Provider the benefit of the Exit Transfer Contract. Provider will promptly notify Customer if it is aware (or reasonably should have been aware) that any step requested by Customer or a New Provider will put Provider, Customer or the New Provider (as the case may be), in breach of any Exit Transfer Contract.
- 7.4** In relation to Exit Transfer Contracts that are not Transfer Contracts, Provider must use its reasonable efforts to ensure that it obtains the right to transfer such Exit Transfer Contracts to Customer under **Sections 7.1 and 7.2** at no additional cost to Customer. Where Customer would incur any costs in relation to the transfer of the Exit Transfer Contracts that are not Transfer Contracts, Provider must notify Customer of such costs and the Parties will, at the election of Customer, discuss in good faith alternative solutions and Customer may elect not to take transfer of such Exit Transfer Contracts.
- 7.5** To the extent that a contract would fall within the definition of Available Contracts but for the fact that it is not used wholly or mainly in the provision of the Removed Services (but such contract is nevertheless used solely in relation to the Services), the Parties will, at the election of Customer, use reasonable efforts to come to arrangement by which the portion of the contract relating to the Removed Services is novated, assigned or transferred to Customer or Customer obtains rights to use in respect of such contract to the extent required in relation to the Removed Services.

## **8. SOFTWARE LICENSING AND ASSISTANCE**

### **8.1** Provider will upon termination or expiration of this Agreement (in whole or in part):

- (A) offer to grant to Customer Group upon the expiration of the Termination Assistance Period licenses to use the Commercially Available Provider Property that is not otherwise licensed to Customer pursuant to such license agreed upon in writing by the Parties, which license will be on commercially reasonable terms no less favorable to Customer than those in licenses granted to Provider's other customers and with an initial license fee equal to the lower of (1) Provider's commercially available price at the time or (2) the discount generally applicable to Customer on the discount it generally receives at the time the Statement of Work is terminated, in either case, prorated over a period starting on the date the charges were incurred and ending on the applicable Statement of Work expiration date; and
- (B) if requested by Customer, agree on applicable terms for Provider support upon the expiration of the Termination Assistance Period no more restrictive than commercial terms offered by Provider to licensees of the same or similar Provider Property.

### **8.2** Provider will procure that prior to the commencement of use, the owner, owners or authorized licensors of the Intellectual Property Rights in each item of Available Third-Party Software and each item of Commercially Available Provider Property that is the subject of an Available Contract (other than a Transfer Contract or Subsequent Transfer Contract) agree to grant to Customer, with effect from (and at the election of Customer grant at) the Exit Service Transfer Time, at no extra cost or expense to Customer beyond the applicable license

fees set forth in the Available Contract, a license granting Customer the same rights as those granted by the relevant owner, owners or authorized licensors to Provider in respect of:

- (A) each item of such Available Third-Party Software and each item of Commercially Available Provider Property that is the subject of an Available Contract (other than a Transfer Contract or Subsequent Transfer Contract); and
- (B) each item of Commercially Available Provider Property that is the subject of a Transfer Contract or Subsequent Transfer Contract, to the extent that the relevant owner, owners or authorized licensors of the Intellectual Property Rights agrees to such grant;

for the Permitted Exit Purposes and to permit the other members of Customer Group and any New Providers to use each such item of Available Third-Party Software and each such item of Provider Software that is the subject of an Available Contract for the Permitted Exit Purposes.

**8.3** Where Customer would incur costs in relation to the grant of a license with effect from the Exit Service Transfer Time in accordance with **Section 8.2**, Provider will make a record in the Disengagement Plan of the relevant costs and expenses to be incurred by Customer in securing such licenses under **Section 8.2** in relation to the item of Provider Software.

**8.4** After the Start of the Termination Assistance Period, Provider will not enter into any contract for the licensing or maintenance of Third-Party Software or other Third-Party Materials that is to be wholly or mainly used in connection with the provision of the Removed Services unless done in accordance with the relevant terms of the Agreement.

## **9. DELIVERY OF SOFTWARE AND ESCROW ARRANGEMENTS**

**9.1** Provider will provide Customer copies of any software program up to the number of licenses set forth in the Specific Disengagement Plan:

- (A) which Customer or any New Provider is entitled to use under:
  - (1) any Exit Transfer Contract; or
  - (2) any contract made to replace an Exit Transfer Contract;
- (B) for which Customer is granted a license pursuant to **Section 8** above,

(the “**Relevant Software**”), sufficiently far in advance and at the latest at the date set out in the Specific Disengagement Plan to enable Customer to use this so as not to cause any interruption to Customer Group’s business (or will ensure that the owner of the Intellectual Property Rights in the Relevant Software, or a person appropriately authorized by that owner, does so). If to do so would place Provider in breach of an Exit Transfer Contract, Provider will provide such copies as soon as it is able to do so without such breach.

**9.2** Where the Parties have agreed to do so through the procedures for New Services set forth in **Section 3.1(D)** of the MSA, Provider will procure that the relevant Third Party enters into an escrow agreement pursuant to that Section.

- 9.3** If any Relevant Software was, immediately before the relevant time, used on Exit Transfer Systems that Customer has elected to buy in accordance with this Schedule, then to the extent set forth in the Specific Disengagement Plan, Provider will fulfill its obligations under this **Article 9** by:
- (A) allowing Customer to take possession of such Exit Transfer Systems in accordance with this Schedule without removing such copies; and
  - (B) providing Customer with a reasonable number of back-up copies.
- 9.4** Provider will provide Customer with copies of other software programs to which this **Article 9** applies in such form as Customer may reasonably request.
- 10. SOFTWARE MAINTENANCE**
- 10.1** If Customer requests Provider to do so by reasonable notice before the relevant Exit Service Transfer Time Provider will offer to Customer maintenance on the terms set out, and in relation to the Provider Property specified, in the applicable Specific Disengagement Plan.
- 10.2** Any dispute as to whether maintenance terms proposed by Provider for the purposes of **Section 10.1** are reasonable or commercial will be resolved in accordance with **Section 15.3** (Escalation Procedure for Relationship Issues) of the MSA.
- 10.3** Provider will upon Customer's request (on reasonable notice to do so) before the relevant Exit Service Transfer Time procure support, maintenance and enhancement of relevant Provider Third-Party Software for Customer's benefit in accordance with the applicable SOW.
- 10.4** Where, in respect of any Exit License Third-Party Software, Commercially Available Provider Property, or any Deliverables, a member of Customer Group has during the Term paid to a member of Provider Group a one-time charge relating to the maintenance of, or warranty given by a supplier in respect of, such Exit License Third-Party Software, Commercially Available Provider Property, or any Deliverables for a time period governed by the Specific Disengagement Plan, Provider will ensure that the member of Customer Group acquiring such Exit License Third-Party Software, license to such Commercially Available Provider Property, or any Deliverables receives at no additional cost the benefit of any portion of such maintenance or warranty that relates to the period beyond the Term.
- 11. REMOVED SERVICES EMPLOYEES**
- 11.1** The Parties agree between them that, unless agreed otherwise in writing, the expiration or termination (in whole or in part) of, or an insourcing or resourcing in respect of, the Agreement is not deemed to constitute a transfer of employment of the Removed Services Employees from Provider to Customer and/or one or more New Provider(s) (as the case may be), unless and to the extent that, in a Transfer Jurisdiction it is determined or established otherwise in accordance with the Transfer Legislation if there is a dispute between the Parties and finally, in court). Where and to the extent that it is determined or established otherwise in accordance with the Transfer Legislation that Removed Services Employees will transfer from Provider to Customer and/or one or more New Provider(s) (as the case may be), those rights and obligations resulting from the employment of each Removed Services Employee in Transfer Jurisdictions (including those relating to compensation and benefits and the position, function and location in which such Removed Services Employee is employed, but

excluding pension benefits to the extent pension benefits do not transfer by operation of the Transfer Legislation that would transfer will transfer accordingly to Customer and/or New Provider(s) (as the case may be), as per the Exit Service Transfer Time in accordance with the Transfer Legislation, unless (A) that Removed Services Employee, in exercise of his or her rights under the Transfer Legislation objects to being employed by Customer and/or New Provider(s) and (B) under the relevant Transfer Legislation such objection would result in continued employment with Provider.

- 11.2** For clarity, for future cases, the Parties may agree that Customer or the New Provider will offer employment to Removed Services Employees who are located in a Non-Transfer Jurisdiction.
- 11.3** In Non-Transfer Jurisdictions, Provider will after the termination of the Agreement or parts thereof (other than for Force Majeure) or expiration of the Agreement, or an insourcing or resourcing in respect of the Agreement, as per the Exit Service Transfer Time, assume full responsibility for Removed Services Employees in those Non-Transfer Jurisdictions and Customer has no obligation to extend an offer of employment to any Removed Services Employees in such Non-Transfer Jurisdictions.
- 11.4** Customer and/or New Provider(s) cannot to the detriment of the Removed Services Employees deviate from the principle set forth in **Section 11.1** that Customer and/or New Provider(s) will provide terms and conditions of employment, which are comparable to and no less favorable. Customer and/or New Provider(s) is allowed to pay cash compensation or to grant other alternative benefits to the Removed Services Employees to minimize differences between the terms and conditions of Customer and/or New Provider(s) and Provider to the extent (A) such is permitted by applicable Law and (B) any local statutory or contractual obligation to consult or inform the relevant local works councils, trade unions and other relevant employee representative bodies on such deviation has been fulfilled.
- 11.5** In the event that Customer terminates the Agreement (in whole or in part) due to a Force Majeure Event in accordance with **Section 10.2** (Force Majeure) of the MSA, **Sections 11.1 through 11.4** above will not apply and instead the Parties agree between them that:
- (A) to the extent the Services are terminated in Provider Service Locations affected by the Force Majeure Event, Provider will bear all costs of employment, redeployment and termination of employment resulting from such termination; and
  - (B) to the extent the Services are terminated in locations that have not been affected by the Force Majeure Event the following will apply (1) in respect of Transfer Jurisdictions: if the termination (in whole or in part) is deemed to constitute a transfer of employment of the Removed Services Employees from Provider to Customer by operation of the Transfer Legislation then **Section 11.1** will apply accordingly; and (2) in respect of Non-Transfer Jurisdictions and Transfer Jurisdictions where the termination (in whole or in part) is not deemed to constitute a transfer of employment of the Removed Services Employees from Provider to Customer by operation of the Transfer Legislation, then **Section 11.2** will apply accordingly and Customer has a right to offer employment to the Removed Services Employees as per the Exit Service Transfer Time on discretionary terms and conditions of employment.

- 11.6** Nothing in this **Section 11** or in this Schedule will be construed as granting any independent rights to Removed Services Employees by Provider and/or Customer and/or New Provider(s) or to make any Claims on the basis of this Schedule.
- 11.7** The Parties will as soon as practicable, but in any event at the latest one (1) month prior to the applicable Exit Service Transfer Time, jointly send to each Removed Services Employee, to the extent transferred to Customer and/or New Provider(s) in accordance with this **Section 11** a letter on his or her transfer to Customer and/or New Provider(s) in a form to be agreed upon between the Parties.
- 11.8** Without prejudice to the obligation of Provider to disclose information pursuant to this Schedule and to the extent permitted under applicable Law, Provider will give Customer and/or New Provider(s) such information, assistance and cooperation as Customer and/or New Provider(s) may reasonably request in writing and Provider may reasonably be able to provide, with a view to completing the transfer of employment of the Removed Services Employees. In view of the transfer of employment, Provider will, to the extent permitted under applicable Law, as soon as possible after the applicable Exit Service Transfer Time provide to Customer and/or New Provider(s) the original records or documents, payroll records and final salary details relating to the Removed Services Employees, but will after the applicable Exit Service Transfer Time preserve data or documents relating to such Removed Services Employees for such period as is required or permitted by applicable Law.
- 11.9** To the extent permitted by local data protection Laws, Customer, New Provider(s) and Provider will each at the other Party's request provide to the requesting party all such information, which will be accurate and not misleading, as may be reasonably necessary to enable the requesting Party to comply with any (joint) obligation to inform and/or consult with:
- (A) Removed Services Employees;
  - (B) other Provider Staff and personnel of Customer;
  - (C) any relevant works council, trade union or other relevant employee representative body; or
  - (D) any Governmental Authority,
- and will each pay to the requesting Party an amount equal to any and all direct Losses arising as a result of its failure to provide such Party with such information, as required by applicable Law.
- 11.10** In respect of the period up to the applicable Exit Service Transfer Time, Provider will perform and discharge all its obligations in respect of all Removed Services Employees, including those in connection with the termination of the employment of the Removed Services Employees with Provider, unless otherwise provided for in this **Section 11**. Provider will pay to the individual Removed Services Employee who transfers to Customer and/or the New Provider(s) pursuant to this **Section 11**, a pro rata proportion of accrued but unpaid vacation allowances and accrued but outstanding days of vacation, in respect of the period prior to the applicable Exit Service Transfer Time, unless such is prohibited by applicable Law, in which case Provider will reimburse Customer and/or New Provider(s) in respect of accrued but unpaid vacation allowances and accrued but outstanding days of vacation of relevant Removed Services Employees, in respect of the period prior to the applicable Exit Service Transfer Time and Provider will indemnify Customer or New Provider(s) against any



and all Losses resulting from, arising out of or relating to, any and all Claims of Removed Services Employees in respect of such accrued vacation allowance and days that are either not paid by Provider to the Removed Services Employees or not reimbursed to Customer or New Provider(s).

**11.11** Customer will, and will ensure that the New Provider(s) will, perform and discharge all its obligations in respect of all Removed Services Employees who are employed by Customer or New Provider(s) pursuant to this **Section 11** in respect of the period from the applicable Exit Service Transfer Time. Customer will indemnify Provider from and against any and all Losses resulting from, arising out of or relating to, any and all Claims (including claims made by, or on behalf of, the relevant Removed Services Employees) incurred by Provider in respect to these obligations. In addition, Customer will indemnify Provider from and against any and all Losses resulting from, arising out of or relating to, any and all Claims, arising as a result of:

- (A) any event, matter or circumstance with respect to Removed Services Employees who as of the applicable Exit Service Transfer Time are employed by Customer or New Provider(s) pursuant to this **Article 11** (including an act or omission of Customer and/or New Provider(s)) which took place after the applicable Exit Service Transfer Time;
- (B) any person employed or engaged or formerly employed or engaged by Customer and/or New Provider(s) (other than a Removed Services Employee) at any time; or
- (C) any Removed Services Employee who as of the applicable Exit Service Transfer Time is employed by Customer or New Provider(s) pursuant to this **Article 11**, claiming that as a result of the transfer of employment to Customer and/or New Provider(s) his or her compensation, benefits, position, function and location has changed to his or her detriment.

**11.12** Where the Transfer Legislation applies in connection with the assignment, novation, suspension, expiration or termination of the Services contemplated by a SOW (or part thereof) then:

- (A) Provider will indemnify Customer Group and/or the New Provider(s) (as the case may be) from and against any and all Losses, including all Employment Liabilities resulting from, arising out of or relating to, any and all Claims arising out of:
  - (1) any claim in connection with the termination of the employment of any of the Removed Services Employees by the Provider prior to the date of transfer of employment of the Removed Services Employees to Customer or any New Provider (as the case may be);
  - (2) any claim by any of the Removed Services Employees related to the period during which they were employed by Provider up to and including the date of transfer of their employment to Customer or any New Provider (as the case may be); and/or
  - (3) any failure by Provider to comply with its obligations under the Transfer Legislation.

**11.13** Provider agrees that where any Removed Services Employee (who was not identified to be subject to a Transfer Jurisdiction by the Provider prior to the relevant transfer) claims that the Transfer Legislation applies during or on the assignment, novation, suspension, expiration or termination (for whatever reason) of the applicable

SOW and/or the MSA (or part thereof) against Customer and/or New Provider(s) and a court or tribunal orders that the Transfer Legislation applies such that the Removed Services Employee has a right to transfer to the employment of Customer or the New Provider(s) (as the case may be) under the Transfer Legislation, Provider agrees:

- (A) it will notify Customer of that finding or allegation as soon as reasonably practicable after becoming aware of it;
- (B) Customer will inform Provider in writing whether it or the relevant New Provider(s) will accept the transfer of such person and the terms on which it will do so; and
- (C) if Customer confirms in writing that it or the New Provider(s) will accept the transfer of employment of that person, subject to any other terms agreed between the Parties, such person will be considered to be subject to a Transfer Jurisdiction for the purposes of this Schedule with effect from the date that he or she transfers.

**11.14** Should any Service Location be subject to the Transfer Legislation, Provider will organize the Services provided from that location in such a way that no individual employee could be considered “wholly or mainly” engaged in the provision of Services.

## **12. APPORTIONMENTS**

**12.1** There will be apportioned between Provider and Customer, at each Exit Service Transfer Time, all outgoings and expenses (including any remuneration due, and the cost of any benefit provided, under or in connection with the contract of employment of an Removed Services Employee) and all rents, royalties and other periodical payments receivable in respect of the Exit Transfer Systems, Exit Transfer Contracts and Removed Services Employees (“**Exit Payments**”).

**12.2** This apportionment will be carried out as follows:

- (A) all Exit Payments will be apportioned in the currency in which the original invoice is presented;
- (B) the Exit Payments (other than fixed payment amounts) will be annualized and divided by 365 to reach a daily rate;
- (C) Customer will be responsible for or entitled to (as the case may be) an amount equal to the number of complete days during the period of the invoice after the Exit Service Transfer Time multiplied by that daily rate; and
- (D) Provider will be responsible for or entitled to (as the case may be) the rest of the invoice for Exit Payments.

**12.3** Each Party will make payments due under this Section as soon as practicable.

**13. TRANSITIONAL COOPERATION AND ASSISTANCE**

**13.1** In relation to the expiration or any termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement, unless the Parties agree otherwise in writing in relation to a Provider System, Subcontract, Supply Contract or member of Provider Staff, Provider will ensure (and will ensure that each Provider Agent will ensure) that:

- (A) each Provider System that is an Available System at the Start of the Termination Assistance Period is an Available System at the Exit Service Transfer Time; and
- (B) each Subcontract or Supply Contract that is an Available Contract at the Start of the Termination Assistance Period is an Available Contract at the Exit Service Transfer Time, provided that where: (1) the term of an Available Contract will expire (for the avoidance of doubt, such expiration does not include the termination of such Available Contract at election of Provider) prior to the Exit Service Transfer Time; and (2) the extension of the term of such Available Contract would require Provider to enter into additional costs, the Parties will, without prejudice to Provider's obligation to continue delivering the Services, in good faith consult with one another regarding alternative solutions to the extension of such Available Contract,

with a view to ensuring that the Available Systems and Available Contracts are held together as a coherent system available for transfer to Customer or a New Provider.

**13.2** Without prejudice to the other obligations allocated to Provider in this Schedule and the Specific Disengagement Plan, Provider will, from the Start of the Termination Assistance Period in respect of the expiration or any termination (in whole or in part) of, or an insourcing or resourcing in respect of, this Agreement, and then until six (6) months after the end of the Termination Assistance Period, but always subject to **Sections 13.4 and 13.5** below, (A) provide all reasonably necessary cooperation and assistance to Customer and any New Provider or New Providers to facilitate the smooth, timely and orderly transfer of and transition of responsibility for the Removed Services to Customer or New Provider, and will ensure that each Provider Agent does so, in a way which avoids or minimizes any disruption or adverse effect to the provision of information technology services to, and the businesses or operations of, Customer as a result of expiration or termination (in whole or in part) or an insourcing or resourcing in respect of, this Agreement; and (B) continue to meet its remaining obligations under the Agreement. During the Termination Assistance Period, upon Customer's request, Provider will provide Customer with Provider's non-proprietary information and other assistance related to the Services as would be reasonably necessary for a third party to prepare for an informed assumption of responsibility for the Services upon termination or expiration of the Agreement. If, in the case any Available System has to be deinstalled or reinstalled, Provider will, at no additional charge to Customer, install and configure the new instance for Customer to the same installation and configuration as it was previously installed or configured when used by Provider in providing the Services.

**13.3** The cooperation and assistance referred to in **Section 13.2** will include the following:

- (A) Informing Customer of, and delivery to Customer, by such means, at such time(s) and place(s), and in such format, as Customer reasonably requests in writing, of all documents, data, information and other Customer Property held or controlled by Provider or any Provider Agent on behalf of Customer in the course of providing the Removed Services, including all of Customer security badges,

passwords and all Customer facility keys at such time as the items are no longer needed to provide Termination Assistance Services, and providing Customer with a certification by an authorized representative of Provider verifying such return;

- (B) continued provision of such of the Removed Services and such other information technology services as Customer Group or any New Provider reasonably requires;
- (C) a period of parallel working specified by Customer, including the assignment by Customer of Customer personnel to work with Provider Staff to facilitate knowledge transfer to Customer;
- (D) reasonable access to the technical records of Provider and Provider Agents relating to the Removed Services and the provision to Customer or relevant New Provider or New Providers of the following information:
  - (1) in relation to the Exit Transfer Systems: all system logs, historical logs, security manuals, operations manuals, procedures manual, technical documentation relating to running of exit transfer systems, operating standards, configuration diagrams, schematics, and all such similar documents;
  - (2) copies of Exit Transfer Contracts;
  - (3) key support contact details for Third Party personnel in respect of contracts assigned or transferred to Customer under **Section 3** ; and
  - (4) details of physical and logical security processes and tools that will be available to Customer in accordance with the Agreement;and an explanation of all policies, processes, standards and procedures and related operations necessary to facilitate the transfer of the Removed Services;
- (E) support and assistance in respect of the transporting, loading and running of Customer Data;
- (F) reasonable support and assistance with a view to enabling Customer or a New Provider to maintain any Commercially Available Provider Property, Exit License Third-Party Software, Deliverables, and provision of appropriate interface information and other technical details reasonably required to enable Customer or a New Provider to use, develop or replace any Provider Software used in the Removed Services that is not commercially available;
- (G) at Customer's request, providing such assistance and support in connection with any physical inventory to be conducted by or on behalf of Customer of the Customer Property constituting Equipment to be returned to Customer.
- (H) at Customer's request, transfer of any telephone number or IP address of Customer from Provider, Provider Agents, or Provider Staff to a New Provider;

- (I) at Customer's request, provide complete and final accounting, reconciliation and invoicing for all Services, including any amounts that may be due and owing with respect to Termination Assistance in accordance with the Agreement, together with any and all reasonably required supporting documentation;
- (J) in conjunction with Customer, conducting a rehearsal of the transition prior to the cutover at such time as is reasonably acceptable to both Parties;
- (K) providing such support and assistance as may be reasonably requested to support Customer's customers, including Authorized Users, in connection with the Termination Assistance Services, including the participation in meetings with Customer and its customers, provided that Customer will continue to serve as the primary point of contact with its customers;
- (L) Prior to removing any Systems, Equipment, software or other items from any Customer facilities, Provider will provide advance notice to Customer identifying the property it intends to remove. Such identification will be in sufficient detail to apprise Customer of the nature and ownership of such property. Provider will not remove property owned by Customer or any other member of Customer Group or Authorized Users from a Customer facility. Provider will comply with the removal procedures reasonably established by Customer and provided to Provider in writing for removal of property from any Customer facilities and all removals will be in accordance with Customer's redeployment and disposal processes and policies, provided however, that Customer will not prevent Provider from removing Provider Systems or other items owned or leased by Provider; and
- (M) reasonable support and training in the provision of, and the technology, apparatus and software used to provide, the Removed Services so as to enable Customer to provide services similar to the Removed Services with minimum disruption and in accordance with service levels similar to the Service Levels.

**13.4** Except to the extent notified by Customer to Provider under **Section 2.4**, the quality of the Removed Services and other Services provided by Provider and Provider's performance otherwise will not be degraded during the Termination Assistance Period will accordingly at all times comply with the service level requirements set out in the Service Level Agreement.

**13.5** Notwithstanding any arrangement between Customer and Provider (in the Specific Disengagement Plan or otherwise), Customer may by written notice to Provider and at its sole discretion, (A) postpone the date on which the responsibility for any Removed Service was to be transferred to Customer or a New Provider (as is agreed in the Specific Disengagement Plan) by a period of up to the maximum duration of the Termination Assistance Period; and (B) Provider will continue to provide the relevant Removed Service and/or relevant Termination Assistance Services for the duration of such postponement. The relevant Removed Service and Termination Assistance Services will be provided subject to the provisions of the Agreement (including all pricing arrangements) as such provisions would have been applicable to the services prior to the effective date of termination or expiration, Customer agreeing that it will furthermore pay to Provider any additional demonstrable costs of Provider (not otherwise accounted for in Charges or the rates referred to in **Section 18.1** hereof) resulting from the extension of the Termination Assistance Period pursuant to this **Section 13.5**.

**14. FURTHER COOPERATION**

**14.1** Provider will in good faith assist and cooperate with Customer in providing such information as Customer may reasonably request in connection with any request for proposal, request for quotation, agreement or otherwise in connection with the process conducted for the provision of services similar to the (potentially) Removed Services, including:

- (A) providing such information as will assist Customer in developing base cost models; and performance histories; and
- (B) providing an update of the Disengagement Plan for the (potentially) Removed Services.

**14.2** Provider acknowledges that Customer is entitled to rely upon the accuracy of information and, subject to **Article 17** (Confidentiality and Customer Data) of the main body of the Agreement, disclose the Disengagement Plan, as well as such information included in the Disengagement Plan or provided under **Section 14.1** in the preparation and distribution of requests for proposals, requests for quotations, agreements and other documents for potential New Providers.

**15. BUSINESS CONTINUITY**

**15.1** Provider will provide reasonable assistance to support Customer's requirements for business continuity during the Termination Assistance Period, including:

- (A) updating and supplying information concerning Provider's business continuity services, testing procedures and frequencies, redundancy diagrams and plans;
- (B) training and informing Customer of its current policies and procedures with regard to backup and business continuity;
- (C) arranging for additional overlapping coverage or support through the Termination Assistance Period to minimize disruption in the event of an outage during that period;
- (D) providing reasonable assistance to Customer in configuring Customer Systems;
- (E) performing Provider's disaster recovery obligations set forth in the applicable SOW including with respect to the Provider DR Plan in effect immediately prior to the initiation of the Termination Assistance through the end of the Termination Assistance Period for those Services still being provided by Provider;
- (F) reasonably assisting with physical de-installation and transportation of Equipment and other Customer Property, and related physical assets from the Service Locations; and
- (G) if requested by Customer, participating in business continuity testing after the Termination Assistance Period until a successful test has been accomplished.

**16. POST COMPLETION OBLIGATIONS**

Each Party will promptly pass to the other any payment, notice, correspondence, information or enquiry in relation to the Exit Transfer Systems, Exit Transfer Contracts or Removed Services Employees which it receives after an Exit Service Transfer Time and which properly belongs to the other.

**17. RIGHT TO USE PROVIDER SYSTEMS DURING TERMINATION ASSISTANCE PERIOD**

Customer may continue to use the Provider Systems used to provide the Removed Services for the duration of the Termination Assistance Period on the same terms (including relevant pricing arrangements) as it was entitled to use the same as set in the Agreement.

**18. EXIT MANAGEMENT COSTS**

**18.1** Subject to **Section 18.2** below, Customer will reimburse Provider on the basis of reasonable rates to be agreed by the Parties in the Specific Disengagement Plan, in respect of time reasonably incurred, and any other expenses reasonably incurred, by Provider in each case in performing Provider's obligations under this Schedule, unless the obligations can be performed using Provider Staff or resources used wholly or mainly in the provision of Services to Customer which have been paid for by Customer, in which case Provider will notify Customer of the extent to which using such resources would materially impact on the supply of the Services which would have been performed by such resources. To the extent that Provider's compliance with its obligations under this Schedule will require the use of different or additional Provider Staff, services or resources beyond that which are covered by the applicable base charges and ARCs/RRCs, such Termination Assistance Services will be considered a chargeable service to be agreed through the procedures for New Services set forth in **Section 3.1(D)** of the MSA.

**18.2** The sums to be reimbursed to Provider pursuant to **Section 18.1** and which are attributable to a Critical Exit Deliverable will be allocated to such Critical Exit Deliverable. Customer will only be obliged to make the reimbursement of each such allocated sum on delivery of the Critical Exit Deliverable in accordance with its performance criteria.

**19. CHANGE TO THE CHARGES FOLLOWING START OF THE TERMINATION ASSISTANCE PERIOD**

The Parties recognize that the migration of the Removed Services from Provider to the New Provider or Customer (as the case may be) may occur in stages and that this may result in a gradual cessation by Provider of the provision parts of the Services and their provision by the New Provider or Customer. In this regard, the Parties agree that the Fees will be varied, from time to time during the migration of the Removed Services based on the relevant principles set out in the Fee Exhibit to the applicable SOW.

**20. FAILURE TO PROVIDE TERMINATION ASSISTANCE**

Any failure by Provider to provide the termination assistance described in this Schedule (or any threat by Provider not to provide such assistance) may constitute irreparable harm to Customer and Customer will accordingly in such cases, notwithstanding any arrangements to the contrary (as are set out in the Agreement or agreed pursuant to the terms thereof) have the right to proceed directly to court for any such legal or equitable remedies Customer may request. If a court should find that Provider has breached any of its termination assistance obligations as described in this Schedule, Provider agrees that it will not oppose any corresponding

court order to the extent such order compels the performance by Provider of such breached obligations hereunder.

**21. PAYMENT OF TERMINATION COSTS**

Customer will pay Termination Charge Amounts only to the extent expressly provided for in the relevant Fee Exhibit to a SOW.

**22. STORAGE AND RETURNING MATERIALS, DATA, INFORMATION AND OTHER CUSTOMER PROPERTY**

**22.1** Upon Customer's request at any time during the Term or at the end of the Termination Assistance Period, Provider will return or destroy Customer Property, Customer's Confidential Information and Customer Data (including Personally Identifiable Information), according to, and otherwise comply with the obligations set forth in, **Section 17.5** (Return of Confidential Information), **Section 17.12** (Return of Personally Identifiable Information) and **Sections 20.2** (Exit Rights) of the MSA. Provider will transfer responsibility for off-site storage of Customer's documents (electronic and hardcopy), if any, to Customer.

**22.2** In accordance with the Disengagement Plan, Provider will vacate the Customer facilities and return to Customer, if not previously returned, all Customer resources, including Customer Equipment, in a condition at least as good as the condition thereof on the applicable SOW effective date, subject to ordinary wear and tear. Provider will perform those activities required to enable a smooth transition of operational responsibility for the terminated/expired Services, including (to the extent applicable):

- (A) returning current copies of the standard software configuration(s) and any business specific applications materials owned by Customer or which Customer is entitled to obtain as provided in the Agreement and in Provider's possession;
- (B) delivering the existing System support profiles, enhancement logs, problem tracking/resolution documentation, and status reports associated with the terminated/expired Services;
- (C) providing monthly work volumes, Service Levels and information on historical performance for each terminated/expired Service component over the preceding twelve (12) months;
- (D) providing reasonable assistance with the movement of Customer Data from the then-existing databases to the new processing environment;
- (E) provide the orderly hand-off of applicable ongoing Projects, including a listing of the applicable then-current and planned Projects. With respect to each such Project, achieving transfer of responsibility without loss of momentum or material adverse impact on Project timetables ( e.g. , document current status, stabilize for continuity during disengagement, and provide required training); and



(F) cooperating with Customer's test plans, back out procedures, and contingency plans as part of the transition.

**22.3** If Customer's request under this **Section 22** affects the ability of Provider to perform its obligations under this Agreement, Provider will be relieved from its performance to the extent that Provider is unable to comply with its obligations without such data, information, records and documentation, it being agreed that where Provider is able to comply with its obligations without such data, information, records and documentation, the further compliance by Provider of the relevant obligations will be agreed through the procedures for New Services set forth in **Section 3.1(D)** of the MSA.

## SCHEDULE 5

### GOVERNANCE

This is **Schedule 5** (Governance) (this “**Schedule**”) to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

#### 1. INTRODUCTION

**1.1** This Schedule sets out the management and reporting responsibilities of each Party with respect to the provision of the Services to Customer and provides an overview of the Governance Structure. The “**Governance Structure**” describes the internal governing bodies and reporting mechanisms to be set up and implemented by the Parties in order to manage and implement the Agreement, including the provision of the Services.

The detail of the Governance Structure and the working of the Governance Bodies (as defined in Section 2.1, below) may be further defined in a procedure guide, which will be completed as an element of the Transition activities, as set forth in this Schedule (the “**Governance Procedure Guide**”).

**1.2** The overall purpose of the Governance Structure is to provide leadership from the executive management of both Parties for the development and ongoing operation of the Services. The Governance Structure is intended to:

- (A) Maintain current knowledge of Customer’s business direction and strategy.
- (B) Facilitate compliance with Customer’s risk management, Project approval procedures and other Customer Policies in connection with the provision of the Services and any Projects agreed.
- (C) Enable the Parties to work together to promote the achievement of the expected return on investment in connection with Customer’s relationship with Provider.
- (D) Maintain control of all Changes.
- (E) Jointly manage the prioritization and planning of Services to ensure that the potential for business benefit to Customer is optimized.
- (F) Maintain disciplined management regarding cost, quality and mutual compliance with contractual commitments.
- (G) Provide general oversight and consolidated performance reporting.
- (H) Provide a clear route for Project reporting, issue escalation and resolution and risk management.

- (I) To promote the achievement of the business case with regard to Customer's relationship with Provider.

## 2. GOVERNANCE BODIES AND RESPONSIBILITIES

### 2.1 Governance Structure

Provider will manage the Services for Customer's benefit in accordance with the terms of the Agreement. In order to facilitate the management of the provision of the Services by Provider and the Parties' overall management and implementation of the Agreement, the following joint governance bodies ("**Governance Bodies**") will be established immediately following the Effective Date:

- (A) Strategic Level
  - (1) Executive Review Board
- (B) Operating Level
  - (1) Performance Review Board
  - (2) Transformation Review Board

The Parties acknowledge and agree that meetings within and among the various Governance Bodies will be part of the normal operations of each Party in relation to the Services and are necessary to provide the most effective level of direction and support for Provider's provision of, and Customer's receipt of, the Services. The Parties may add or remove a Governance Body or change the Governance Structure, in each case, upon mutual written agreement. Meetings of the Governance Bodies may be held either in person or telephonically. As a general rule, meetings will be held in person, with telephone meetings being the exception and only as agreed to by the Parties. The meeting structures (activities, schedules, inputs, outputs), specific names of meeting attendees, meeting dates and meeting times will be more specifically specified in the applicable Procedure Guide. Provider will ensure that such content is updated and amended (with Customer's prior written approval) so that the Procedure Guide is kept current during the Term. Provider additionally will procure that its representatives on the Governance Bodies attend Customer internal governance meetings and meetings with Customer Agents at the prior written request of Customer.

If a Party's representative on any of the Governance Bodies, through resignation, illness, death or misconduct, ceases to be a member of that Governance Body, that Party will, within thirty (30) days, propose to the other Party a replacement of equivalent standing for such other Party's approval. The other Party's consent to such proposal may not unreasonably be withheld or delayed. Provider will be, at its sole cost and expense, responsible for any knowledge transfer as may be necessary in order to affect the smooth transition onto the Project of any such replacement representative.

Each Party will appoint suitably senior persons to each Governance Body who are empowered to commit their organizations within the terms of the relevant Governance Body.

## 2.2 Strategic Level

(A) The “ **Executive Review Board** ” will have the purpose and responsibilities described below.

(1) Purpose

- (a) To review Provider’s performance under this Agreement.
- (b) To ensure that the objectives of both Customer and Provider are satisfied with respect to the Agreement.
- (c) To approve strategy with respect to the Services in accordance with Customer’s Risk Management and Project approval procedures.
- (d) To manage the overall Customer and Provider relationship.
- (e) To ensure alignment of Customer and Provider goals and objectives.

The chairperson of the Executive Review Board will be appointed by Customer. The other members of the Executive Review Board will be agreed upon by the Parties during the Transition. The Executive Review Board will not be involved in day-to-day management of the Agreement but will retain overall accountability for the Agreement in addition to the business relationship.

Each Party, where possible, will give the other Party one (1) month’s prior written notice in the event of a change to its representatives on the Executive Review Board. Neither Party will change its representatives on the Executive Review Board without the other Party’s prior written approval. Meetings will take place quarterly, unless otherwise agreed by the Parties. Each meeting of the Executive Review Board will be attended by at least two (2) members from each of Provider and Customer. Where a decision is required of the Executive Review Board, Customer and Provider will each designate one representative to vote on its respective behalf ( *i.e.* , each of Provider and Customer have one vote without regard to the number of actual participants on the Executive Review Board) and all decisions required of the Executive Review Board will be made by a unanimous vote. Members of the Executive Review Board may not delegate voting authority to a person outside of the Executive Review Board. The time and place of such meetings will be mutually agreed. Meetings will be minuted by Provider and minutes will be circulated by Provider for approval between the Parties.

(2) Key Responsibilities

- (a) To monitor and direct the strategic relationship between Customer and Provider.
- (b) To provide an “interface” to the executive teams of both Parties by providing regular feedback on progress and achievements to executive meetings.
- (c) To review long term plans, business trends and directions.

- (d) To review overall performance of the Services including financial performance investments and the effectiveness of gain/risk share arrangements.
  - (e) To monitor and confirm the achievement of the Transition and the Transformation as reported by the Transformation Review Board.
  - (f) To prioritize, identify, and resolve strategic issues.
  - (g) To resolve issues and/or disputes escalated by the Performance Review Board.
  - (h) To examine proposals for amendments to the Agreement.
  - (i) To review new policies or changes to existing policies.
  - (j) To review new business opportunities submitted for consideration by Customer or Provider.
- (3) Members of the Executive Review Board
- (a) The Parties will name their representatives to the Executive Review Board within thirty (30) days from the Effective Date, including: Customer - TBD
  - (b) Customer - TBD
  - (c) Customer - TBD
  - (d) Provider - TBD
  - (e) Provider - TBD
  - (f) Provider - TBD
  - (g) Provider - TBD

IBM Client Partner Executive and Customer Relationship Manager, or such other person as is considered appropriate by the chairperson, may attend Executive Review Board meetings by request of the chairperson of the Executive Review Board.

## 2.3 Operating Level

- (A) Performance Review Board
  - (1) Purpose
    - (a) To provide overall operational leadership for the Services, including the delivery of the Services and Projects.

- (b) To manage ongoing and day-to-day relations between Customer Personnel and Provider Staff regarding the delivery of the Services.

(2) Key Responsibilities

- (a) The identification and resolution of operational issues, including those issues escalated to the Performance Review Board by the Transformation Review Board.
- (b) The preparation, examination and implementation of any modifications to the format of all reports prepared by Provider.
- (c) The examination and validation of the service level credits, if any, to be paid by Provider.
- (d) To approve Service plans, guide overall activities and manage Service expectation.
- (e) To discuss and implement changes, Projects or New Services that should be agreed at a level above the day-to-day management team.
- (f) To discuss process improvement steps and oversee the implementation of any Changes decided upon by way of continuous improvement.
- (g) To review the progress of the Projects and (if applicable) all additional Projects. These reviews are to include a consideration of budget, timetable, dependencies, and progress against Project Milestones.
- (h) To review the progress of the Projects. These reviews are to include a consideration of budget, timetable, dependencies, and progress against Project Milestones.
- (i) To review monthly invoices related to the performance of the Services.
- (j) To identify any material current or future events that may affect Services.
- (k) To review the results of satisfaction surveys to be conducted by Provider and, if required, formulate an action plan to address any issues arising from such surveys.
- (l) To review the results of any qualitative surveys to be conducted by Provider, as agreed to by the Parties.
- (m) To prepare and implement any necessary amendments to the Agreement within the authority of the team (which will not include any authority to agree any of the items such as New Services).

- (n) To review and report to the Executive Review Board on the achievement of the Transition and the Transformation as reported by the Transformation Review Board.
  - (o) To review annually the future technology maintenance costs.
  - (p) To refer to the Executive Review Board for resolution of issues and/or disputes not resolved at Performance Review Board level.
  - (q) To manage service interfaces between Customer and Provider in relation to the Agreement.
  - (r) To review Service Level results and other operational and financial reporting.
  - (s) To review reports produced by Provider for Customer, including the following:
    - (i) service performance for the current month;
    - (ii) summary of Customer usage of resources;
    - (iii) prioritization of issues;
    - (iv) agreed actions for any Party from any previous meetings; and
    - (v) other performance measures as agreed to by the Parties.
  - (t) To resolve issues affecting the provision of the Services to Customer.
  - (u) To review and schedule Services-related change requests for referral to the Executive Review Board.
  - (v) To review the Technology and Process Evolution described in **Section 3.7** (Technology and Process Evolution) of the MSA and formulate proposals for the implementation of any required changes Customer may wish to investigate further.
  - (w) To agree on process improvement actions, including continuous improvement opportunities, and keep the appropriateness of the Service Levels under continuous review.
  - (x) To agree on any changes to the Service Levels.
  - (y) To discuss any need for initiation of Change Control Procedures to address Changes to the Services, or for any additional Projects.
- (3) Members of the Performance Review Board

The Parties will name their representatives to the Performance Review Board within thirty (30) days from the Effective Date, including:

- (a) Customer - TBD
- (b) Customer - TBD
- (c) Customer - TBD
- (d) Provider - TBD
- (e) Provider - TBD
- (f) Provider - TBD
- (g) Other - Other personnel as required.

The Performance Review Board meetings will be held monthly or as either Party may reasonably request. Relevant Customer business representatives and Provider representatives will also participate and provide input as required.

The purpose of such meetings will be to maintain clear channels of communications, facilitate Project planning and generally serve to minimize problems.

A written record of these meetings will be made by IBM Client Partner Executive and agreed by Customer. Such meetings will have a set of defined formal agenda items agreed by the Parties from time to time.

## 2.4 Transformation Review Board

### (A) Purpose

- (1) To provide overall leadership for the technology and application transformation delivered by the Projects and, if appropriate, any technology-related additional Projects (collectively “**Technology Transformation Projects**”).

### (B) Key Responsibilities

- (1) To approve Technology Transformation Project plans in accordance with Customer’s Risk Management and Project approval procedures and guide overall activities.
- (2) To review the progress of the Technology Transformation Projects. These reviews are to include a consideration of budget, scope, timetable, dependencies, and progress against Project Milestones.
- (3) The identification and resolution of project issues, including those issues escalated to the Transformation Review Board by individual Project workstreams.



- (4) To assess Change Requests related to Projects in advance of submission to the Performance Review Board.
- (5) The preparation, examination, recommendation and integration of any modifications to the Technology Transformation Projects.
- (6) To identify any material current or future events that may affect the implementation of the Technology Transformation Projects.
- (7) Escalate matters as required to the Performance Review Board.

(C) Members of the Transformation Review Board

The Parties will name their representatives to the Transformation Review Board within thirty (30) days from the Effective Date, including:

- (1) Customer - [Program Director]
- (2) Customer - [Director of IT]
- (3) Provider - [IBM Client Partner Executive]
- (4) Provider - TBD
- (5) Other - Other personnel as required (for example Customer Group representatives).

The Transformation Review Board meetings will be held monthly or as either Party may reasonably request. Relevant Customer business representatives and Provider representatives will also participate and provide input as required.

### 3. DEFINITION OF DETAILED GOVERNANCE PROCESSES AND TASKS

**3.1** The detailed processes to be conducted and the tasks to be performed by the various Governance Bodies will be defined during the Transition as part of the development of the Procedure Guide for the applicable SOW. The Procedure Guide will define the detail around the scheduling of and agendas to be followed by each Governance Body. The Parties will during the Term comply with and, if necessary, develop the policies and procedures set out in the Procedure Guide.

**3.2** The requirements for the submission of reports to the various Governance Bodies will also be defined by the Parties in the Procedure Guide.

### 4. ESCALATION PROCEDURES

**4.1** Prior to the initiation of formal dispute resolution procedures, the Parties will first attempt in good faith to resolve any dispute, controversy or claim arising under or in connection with this Agreement (a “**Dispute**”), as follows:

- (A) First, Customer Relationship Manager and IBM Client Partner Executive will meet as often, for such duration and as promptly as the Parties deem necessary to discuss the Dispute and negotiate in good faith in an effort to resolve the Dispute.
- (B) If Customer Relationship Manager and IBM Client Partner Executive are unable to resolve the Dispute within ten (10) Business Days after the referral of the Dispute to them, the Dispute will be referred to the Performance Review Board. The Performance Review Board will use reasonable efforts to resolve such Dispute or, if appropriate, to negotiate a modification or amendment to this Agreement. The Performance Review Board will meet as often, for such duration and as promptly as the Parties reasonably deem necessary to discuss the Dispute and negotiate in good faith in an effort to resolve the Dispute.
- (C) If the Performance Review Board is unable to resolve the Dispute within ten (10) Business Days after the referral of the Dispute to them, the Dispute will be referred to the Executive Review Board. The Executive Review Board will use reasonable efforts to resolve such Dispute or, if appropriate, to negotiate a modification or amendment to this Agreement. The Executive Review Board will meet as often, for such duration and as promptly as the Parties reasonably deem necessary to discuss the Dispute and negotiate in good faith in an effort to resolve the Dispute.
- (D) During the course of such discussions, all reasonable requests made by one Party to another for non-privileged or non-confidential information, reasonably related to the Dispute, will be considered in good faith in order that each of the Parties may be fully apprised of the other's position. The specific format for such discussions will be left to the discretion of the Parties, but may include the preparation of agreed-upon statements of fact or written statements of position.
- (E) The Parties will continue to perform their obligations under this Agreement (to the extent reasonably possible in view of the Dispute being escalated) until such time as the Dispute has been resolved (by agreement or otherwise). While such escalation process is in process, neither Party will raise court proceedings against the other except where such action is necessary to stop or prevent an actual or threatened unauthorized disclosure of its Confidential Information, or to stop or prevent an actual or threatened misuse of its Intellectual Property Rights, or otherwise to stop or prevent irreparable harm to that Party.

## SCHEDULE 6

### CHANGE CONTROL PROCEDURES

This is **Schedule 6** (Change Control Procedures) (this “ **Schedule** ”) to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

#### 1. INTRODUCTION

**1.1** This Schedule describes the Change Control Procedures to be followed by Customer and Provider when either Party wishes to make a Change. The Parties may, by joint agreement, amend or waive any part of the Change Control Procedures in accordance with the Agreement, including where the Parties agree that shorter or longer time frames are more appropriate.

**1.2 Objectives** . The objectives of the Change Control Procedures are as follows:

(A) to review each request for a Change (a “ **Change Request** ”) to determine whether such Change is appropriate;

(B) to determine whether a Change is within the scope of the Services or constitutes a New Service or is considered to be a change to the in-scope Services without constituting a change in the scope;

(C) to prepare a more detailed proposal to implement a Change Request (such proposal, a “ **Change Proposal** ”);

(D) to prioritize all Change Requests and Change Proposals;

(E) to minimize the risk of exceeding both time and cost estimates, if any, associated with the requested Change by identifying, documenting, quantifying, controlling, managing and communicating: (a) Change Requests, (b) the preparation of Change Proposals, and (c) their disposition;

(F) to identify the different roles, responsibilities and actions that will be assumed and taken by the Parties to define and implement the Changes; and

(G) to document a Change whether or not such Change results in any additions or reductions in Fees, scope or time.

**1.3** Each Party will be responsible for all costs and expenses incurred by its personnel, agents and subcontractors (in Provider’s case, Provider Agents and Provider Staff) with respect to its participation in, and responsibilities and obligations under, the Change Control Procedures.

#### 2. CHANGE REQUESTS

**2.1** Either Provider or Customer may initiate a Change Request by delivering to the other Party’s Authorized Representative or his/her nominated representative a document (a “ **Change Request Form** ”) that describes the Change and the reasons for it. Such Change Request Form will be the same or similar to that in **Exhibit**

A (Change Request Form). Provider will assign a unique number to any and all such requests and will register the Change Request in the Change Request Log as described in **Section 3** (Change Request Log) below. Each Change Proposal that may be prepared for a Change Request will be tracked by reference to the Change Request to which it relates.

**2.2** Each Party's respective Authorized Representative or his/her nominated representative will be responsible for reviewing and considering any Change Request, and will approve it for further investigation, if deemed necessary. If the Parties agree that the Change Request requires further investigation, the Authorized Representatives will authorize such investigation, which will be performed as required by Provider and/or Customer. In accordance with **Section 3** (Change Request Log) below, the Provider's Authorized Representative or a designated representative (with review and concurrence from the Customer's Authorized Representative) will be responsible for keeping up to date the status of each Change Request in the Change Request Log as the status of the Change Request changes through the Change Control Procedures.

**2.3 Preliminary Change Report .**

(A)**Preliminary Change Report Preparation** . For each Change Request that the Parties have approved for further investigation, regardless of which Party has proposed the Change, Provider will prepare and submit to Customer within [\*\*\*] calendar days (or as otherwise agreed in writing by the Parties, e-mail to suffice), with Customer's reasonable cooperation and provision of any information reasonably requested by Provider, a preliminary written report. Such preliminary report will contain:

- (1)the costs associated with the Change;
- (2)the timeframe for implementing the Change (including any timing constraints);
- (3)the preliminary technical rationale for making the Change, as well as any changes or additions to policies, standards and procedures of Provider and/or Customer as the case may be, in accordance with which the Change is to be implemented;
- (4)the resources (including without limitation human resources, hardware, software and other Equipment) and associated Fees, if any, required for implementing the Change; and
- (5)an initial analysis of the potential risks (if any) to Customer or Provider if the Change is not implemented.

Provider will bear the costs of preparing the preliminary report contained in this Section, and will provide such report as part of the Services.

(B)**Report Review** . Customer and Provider will review the preliminary report and Customer will, within [\*\*\*] calendar days after delivery of such preliminary report in writing, either (a) instruct Provider to prepare a comprehensive Change Proposal as set forth in **Section 2.3(C)** (Comprehensive Change Proposals) below, (b) notify Provider that it does not wish to proceed with the Change, or (c) proceed with the Change on the material terms set forth in the preliminary report and other mutually-agreed terms as necessary to reasonably complete the Change Order.

(C)**Comprehensive Change Proposals** . Where Customer has instructed Provider to prepare a comprehensive Change Proposal, [\*\*\*] calendar days (or as otherwise agreed in writing by the Parties, e-mail to suffice) after receiving such instruction, Provider will prepare a Change Proposal including the following elements of the Agreement, to the extent relevant:

- (1)scope of the Services;
- (2)the Service Levels;
- (3)whether the Change will be an increase in Project cost, a decrease in Project cost, or cost neutral to Customer, including any Fees for the Change ( *e.g.* , fixed price or time and materials, including an estimate of total costs) as well as changes to the Fees, if any; *provided, however* , if a Change Proposal covers multiple customers, Provider will offer to perform the Change Proposal for Customer at a cost which takes into account Customer's proportional share of the pro-ratable costs;
- (4)the resources (including without limitation human resources, hardware, Software and other Equipment) required for implementing the Change;
- (5)timeline, milestones and delivery dates for implementing the Change;
- (6)evaluation testing, development, Acceptance Testing, Acceptance Testing period, and acceptance criteria (which must be included in the final Change Order);
- (7)DR Plan and/or changes to the applicable DR plan;
- (8)impacts to, additions or deletions of, Third-Party Contracts;
- (9)any impacts on Customer Equipment, Customer Software, Customer Property, Provider Equipment, Provider Software, Provider Property, or any member of Customer Group's, Customer Agents' (in the case of Customer), Provider's or Provider Agents' business operations, personnel requirements or other services;
- (10)any related technical or human resource Systems/procedures;
- (11)any legal and regulatory compliance issues;
- (12)any other matter reasonably requested by Customer at the time of preparation of the impact analysis or reasonably considered by Provider to be relevant;
- (13)the Transition Plan and/or changes to the applicable Transition Plan;
- (14)any additional terms and conditions applicable to the Change;

(15)where the Change relates to New Services to be provided, how the business objectives of Customer and Provider will be achieved in the provision of those Services;

(16)any additional contractual terms and conditions which would apply to the Change, any changes to the contractual terms and conditions of the Agreement, together with details of the effect (if any) those terms and conditions will have on the Agreement; and

(17)an analysis of the potential risks (if any) to Customer or Provider if the Change Proposal is not implemented.

Provider will bear the costs of preparing the comprehensive Change Proposal as set forth in this **Section 2.3(C)** (Comprehensive Change Proposals), and will provide such comprehensive Change Proposal as part of the Services.

**(D)Change Proposal Review .**

(1)Once submitted by Provider, Customer will review the Change Proposal and as soon as reasonably practicable, and in any event not more than [\*\*\*] calendar days (or as otherwise agreed in writing by the Parties, e-mail to suffice) after receipt of the Change Proposal, either:

(a)Customer may notify Provider that it does not wish to proceed with the Change, in which case no further action will be taken in respect of the Change Proposal; or

(b)Customer may request that it and Provider meet to discuss the Change Proposal (such meeting to be referred to as the “ **Change Proposal Meeting** ”).

(2)At the Change Proposal Meeting, the Parties will use reasonable efforts to agree to:

(a)take no further action in respect of the proposed Change, in which case no further action will be taken in respect of the Change Proposal and it will be deemed to be “rejected” on the action log;

(b)acquire further information before deciding whether to proceed with the Change;

(c)amend some or all of the contents of the Change Proposal, which Provider will incorporate into a revised version of the Change Proposal; or

(d)proceed with the Change as detailed in the Change Proposal, in which case the Change Proposal will be signed and the Change incorporated in accordance with **Section 2.4** (Effectiveness of a Change) below.

- (3) If the Parties agree to proceed in accordance with one of the options detailed in **Section 2.3(D)(2)** above, then the Parties will gather any necessary information and/or Provider will prepare a revised version of the relevant Change Proposal, upon which the Parties will decide whether to proceed in accordance with **Section 2.3(D)(2)** above. The Parties will continue to go through the process detailed above until such time as a final resolution is made by the Parties. The Parties will act in good faith at all times during such process.
- (4) The Parties anticipate that not all Changes will result in increases in the Fees. Nevertheless, the Parties intend that all Changes will be documented under this **Schedule 6** (Change Control Procedures). Additional Fees for Changes will apply in general when Provider reasonably demonstrates that the implementation or adoption of the Change requires Provider to supply additional resources or perform Services that are not otherwise covered by the existing Fees.
- (5) Notwithstanding anything else, (a) all Changes that do not materially increase the cost of Provider for performing the Services; (b) all Changes to Services for which Provider can mitigate the impact of the Change by re-ordering, re-using or otherwise re-prioritizing or mitigating the impact without incurring material additional cost, (c) all Changes caused by a failure of Provider to perform any of its obligations under the Agreement, and (d) all other Operational Changes initiated (i) by Provider or (ii) by Customer that do not incur a material additional cost for Provider, will be made at no cost to Customer but *provided, however*, that for Changes with increases in volumes of existing Services where such increased volumes would subject Customer to additional Fees pursuant to the applicable Fees Exhibit, Customer shall pay additional Fees pursuant to the applicable Fees Exhibit.

#### 2.4 Effectiveness of a Change.

- (A) **Signed Change Orders.** Upon the signature of a Change Proposal by both Parties' Authorized Representatives, the contents of such Change Proposal will be deemed to be agreed and incorporated into the Agreement on the date of the last signature or as the Parties may otherwise agree (each such accepted Change Proposal will become a "**Change Order**"). All services added or modified by a Change Order will be Services under the Agreement, and the performance of Change Orders will in all respects be governed by the Agreement. Except as expressly provided herein, no part of the discussions or interchanges between the Parties will obligate the Parties to approve any Change or will constitute an amendment or waiver of the Agreement unless and until reflected in a Change Proposal and adopted in accordance with this **Schedule 6** (Change Control Procedures). Neither Party will have any obligation to commence or comply with any Change, perform services that would be covered by any Change, or pay any Fees that would be covered by any Change, until such time as the Parties' Authorized Representatives have signed the appropriate Change Order. Disputes (as defined in **Schedule 4** (Governance) of the Agreement) regarding a Change will be subject to the Dispute resolution process in **Schedule 4** (Governance) of the Agreement.

(B)**Acceptance Criteria.** To the extent specified in a Change Order or the work under such Change Order is otherwise related to a Reviewable Item, Customer's acceptance of, and payment for, work under such Change Orders will be subject to Customer's acceptance in accordance with the acceptance process in **Section 3.20** (Acceptance Testing) – **Section 3.24** (No Deemed Acceptance) of the Agreement.

(C)**Failure to Agree .** If the Party initiating a Change Request believes that the requested Change is required or necessary, the requesting Party will inform the other Party in writing of the reasons why the Change is required and the impact if it is not implemented or the reasons why a Change to the Fees is justified and equitable. If the other Party does not agree to implement the Change, the requesting Party will be entitled to consider the other Party's refusal to agree to implement the Change as a Dispute, and the requesting Party may escalate such Dispute for resolution in accordance with **Schedule 4** (Governance) of the Agreement.

**2.5 Emergency Change Process .** In the event that either Party requires a Change in order to respond to an emergency and such Change would, in the reasonable opinion of the requesting Party, if it was not implemented until Change Control Procedures had been followed, have a detrimental effect generally on Customer Group, including without limitation Customer Group's financial interests, Customer Group's welfare or public safety, or specifically impacting Provider's ability to meet its obligations pursuant to the Agreement, the requesting Party will make all reasonable efforts to contact the other Party's Authorized Representative, and if the requesting Party is unable to contact the other Party's Authorized Representative after reasonable efforts, the requesting Party may make temporary Changes to the Services without the prior consent of the other Party. The requesting Party will notify the other Party as soon as practicable but no later than twenty-four (24) hours after the event of such Change and will, as soon as reasonably practicable (but no later than two (2) business days thereafter) document and report in writing on such Changes to the other Party. Any agreed Change as a result will be agreed in accordance with Change Control Procedures. Disputes regarding any additional Fees for Changes under this **Section 2.5** are subject to the Dispute resolution process in the Agreement.

**2.6 Mandatory Changes .** Notwithstanding the Change consideration and implementation process outlined in this **Schedule 6** (Change Control Procedures) but in all events subject to **Section 2.4(C)** above, if a Change requested by Customer is a Mandatory Change, Provider will immediately begin implementing the Mandatory Change upon request by Customer *provided* Customer agrees to pay any upfront one-time charges related to such change (for example, hardware, software or similar investments) that are approved in writing in advance by Customer. Provider will also prepare and deliver to Customer a Change Proposal related to the Mandatory Change on an expedited basis, where appropriate, and the Parties will work together in good faith to determine the impact on the Agreement (including without limitation, any impact on the Fees) as a result of implementing the Mandatory Change. If the Parties are unable to agree on the impact on the Agreement within [\*\*\*] calendar days after Customer has received the Change Proposal from Provider, either Party may consider such failure to agree to be a Dispute, and may escalate such Dispute for resolution in accordance with **Schedule 4** (Governance) of the Agreement. If the Parties are unable to resolve the Dispute within [\*\*\*] calendar days of the escalation of such Dispute, then Provider may discontinue implementing the Mandatory Change. “ **Mandatory Change** ” means (A) any Change requested by Customer, that, in the reasonable judgment of Customer is required (1) to comply with any Customer Law; (2) as a result of any new Customer Policy or updated, amended or modified Customer Policy that Customer issues to comply with any Law; or (3) for



Contractor to perform services critical to Customer Group's businesses where such services are not within the scope of the Services, but are not materially different in nature or kind from the Services; (B) any Change that is required to protect Customer Group's welfare or public safety; or (C) without reference to (A)-(B) above, any Change otherwise described as a Mandatory Change in the Agreement.

**3. Change Request Log .**

**3.1** Provider will provide Customer, as part of its monthly reporting obligations, a summary specifying the status of all pending Change Requests and Change Proposals.

**3.2** Each entry made in the Change Request Log will consist of the following fields:

(A) number of the Change Request;

(B) name of the originating Party;

(C) a brief description of the Change;

(D) the current status of the Change; and

(E) the date of registration of the Change Request in the Change Request Log.

**3.3** The status of the Change Request at any stage in Change Control Procedures will be one of the following:

(A) raised ( *i.e.* , that the Change Request has been entered in the Change Request Log, but no Change Proposal has been issued);

(B) pending ( *i.e.* , that the Change Request has been raised and the Change Proposal has been issued);

(C) approved ( *i.e.* , awaiting implementation);

(D) closed ( *i.e.* , all implementation tasks have been completed); or

(E) rejected ( *i.e.* , closed and not implemented).

**EXHIBIT A**

**CHANGE REQUEST FORM**

The data to be filled in on the Change Request Form is the following:

<b>Change Request Information</b>	<b>Comments</b>
Document Number	Chronological number of the Change Requests
Version	Document version to keep track of the version history
Creation Date	Date of creation of the Change Request
Beneficiary	Name of the beneficiary for which this Change Request is required
Request Date	Date at which the Change Request was requested
Requested By	Name of the individual who originated the request at Customer or Provider
Position	Position of the originator of the Change
Requested Priority	Priority is proposed by Provider's Authorized Representative and approved by the Customer's Authorized Representative. Priority may be: * Urgent: the request has to be implemented on an expedited basis; or * High/Medium/Low: the Change Request is not urgent but has a level of priority and is to be implemented in the timeframe agreed in the final Change Order
Impacted Service Location	Service Location(s) that will be impacted by the proposed Change
Overall Description	High level explanation of the Change Request
Overall Impact Evaluation	High level evaluation of the main impacts of the Change Request
Estimated costs for detailed analysis	Initial estimate of the costs necessary for the preparation and drafting of a detailed, written proposal relative to the Change
Estimated costs for implementation	Initial estimate of the costs needed to implement the Change, including the increase or decrease or any additional Fees that may be due pursuant to the proposed Change
Submission Date	Date at which the Change Request was submitted to Customer's Authorized Representative
Approval	Yes/No information
Date of Approval	Date at which the Change Request was approved by Customer's Authorized Representative
Name of Customer Approver	Name of the individual who has approved the Change
Target Implementation date	Date at which Customer is expecting the Change to be implemented

<b>Change Request Information</b>	<b>Comments</b>
Reasons for approving	Explanation supporting the approval
Other proposed solution	Customer may propose a different solution from the one presented by Provider
Customer Sign-Off	Customer individual who has signed the Change Request
Customer Sign-Off Date	Date of sign-off of the Change Request
Provider Sign-Off	Provider individual who has signed the Change Request
Provider Sign-Off Date	Date of sign-off of the Change Request

**Change Request Form**

Change Request Identification		
Document Number:	Version:	
Creation Date:		
Beneficiary:	Request Date:	
Requested by:	Position:	

Change Request Description
Requested Priority:
Impacted Service Location(s):
Overall Description:
Overall Impact Evaluation:
Estimated costs for detailed analysis:
Estimated Costs for Implementation:
Submission Date:

Change Request Approval	
Approval:	
Approval Date:	
Approver Name:	Target Implementation Date:
Approved Priority:	
Reasons for Approving:	
Other Proposed Solution:	
Change Request Sign-Off	
Customer Sign-off:	Date of Sign-off:
Provider Sign-off:	Date of Sign-off:

## SCHEDULE 7

### PROGRAM MANAGEMENT AND PROCESS INTERFACE MANUAL

This is **Schedule 7** (Program Management and Process Interface Manual) (this “**Schedule**”), to the MSA by and between Juniper Networks, Inc. and International Business Machines Corp. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA. The Program Management System (“**PgMS**”), and the Process Interface Manual (“**PIM**”) to be implemented by Provider support execution of business processes, plans and policies applicable to the Services.

#### 1. INTRODUCTION

The purpose of this Schedule is to define the outline for the Program Management System and Process Interface Manual to be prepared in connection with each SOW by Provider in accordance with **Section 3.17** (Program Management and Process Interface Manual) of the Agreement. This Schedule sets forth the general terms and methodology for Program Management System obligations, and more specific terms will be set forth in the applicable Program Management System schedule.

In addition, the Process Interface Manual will also be created. The Process Interface Manual describes the operational processes and policies used by Provider Global Service Delivery organization to deliver Services.

To further such purposes, this **Schedule 7** (Program Management and Process Interface Manual) provides the agreed tables of contents and descriptions, without limitation of additional content as may be mutually agreed.

[\*\*\*]

Figure: IBM Program Management System

**2. PROGRAM MANAGEMENT SYSTEM CREATION AND UPDATES**

**2.1 Provider Responsibilities .**

- (A) Provider will incorporate into the Program Management System relevant business processes, applicable standards, policies and requirements employed by Provider in providing the Services, including:
  - (1) Existing approved policies, procedures and data of and/or collected from Customer Group, including Customer Policies (including forms and instructions contained therein); and
  - (2) New policies, procedures and data, subject to Customer’s prior written authorization, required for the operation and governance of the Agreement.
- (B) Provider will maintain the Project Management System in a current state during the Term. Updates will include:
  - (1) Revised approved policies, procedures and data, including Customer Policies (including forms and instructions contained therein) collected from Customer;
  - (2) New policies, procedures and data, subject to Customer’s prior written authorization, required for the operation and governance of the Agreement; and
  - (3) Deletion of obsolete policies, procedures and data, subject to Customer’s prior written authorization. Deleted policies, procedures and data will be logged with the date and reason for deletion.
- (C) Changes to the Program Management System will be made in accordance with the Change Control Procedures.

**3. PROJECT MANAGEMENT SYSTEM CONTENT**

The Program Management System will include the content and topics described below and any other content and topics required in the applicable SOW.

Content	Brief Description
<b>1. ORGANIZATIONAL OVERVIEW</b>	
(a) Provider Management and Delivery Organization	Includes organization charts, description of functions performed, contact information.

Content	Brief Description
(b) Key Contacts – Customer	List of contacts within Customer that are key users of the Services and/or perform a liaison function in regard to the Services.
(c) Key Contacts – Provider Agents	List of key Provider Agent contacts.
<b>2. PERFORMANCE MANAGEMENT PROCEDURES</b>	Ongoing, “steady state” processes, procedures and policies including information on coordination activities, responsibilities of each party (by title/function).
(a) Performance Monitoring and Reporting Procedures	Procedures Provider will use to verify Service delivery on a day-to-day basis, including internal reporting and reporting to Customer.
(b) Problem Management and Escalation Procedures	Procedures Provider will use to identify problems, report and resolve problems, and escalate as necessary within Provider organization and/or Customer.
(c) Root Cause Analysis Procedures	Procedures Provider will use to determine root cause of problems, including involvement of (and/or support to) Customer, End Users or other applicable third parties.
(d) Service Level Measurement and Reporting Procedures	Procedures Provider will use to measure and report Service Levels (including Performance Indicators and Critical Performance Indicators) to Customer.
(e) Project Management Procedures	Description of the methodology and procedures Provider will use to manage and report on Projects.
(f) Change Management Procedures	Description of the methodology and procedures Provider will use to implement Improvements and bug fixes into its environment.
(g) Physical Access & Security Procedures	Physical access and security procedures Provider will use at Service Locations.
(h) Network Access & Security Procedures	Network access and security procedures to which Provider will adhere.

Content	Brief Description
(i) DR Plan	Procedures Provider will use in regard to disaster recovery and business continuity developed in accordance with the requirements specified in <b>Section 10.1</b> (Disaster Recovery Plan) of the MSA. Provider may reference other documents containing comprehensive procedures, including <b>Schedule 12</b> (Disaster Recovery and Business Continuity Requirements) but should provide a general overview within the Procedure Guide.
(j) Other relevant procedures	Description of any other procedures required to deliver the Services as agreed to by the Parties.
<b>3. FINANCIAL MANAGEMENT PROCEDURES</b>	Ongoing, “steady state” procedures and policies, including information on coordination activities and responsibilities of each Party (by title/function).
(a) Invoicing	Procedures for invoicing and verification of invoice by Customer.
(b) Project Milestones	Procedures for reporting on Project Milestone progress, measurement and achievement.
(c) Other relevant procedures	Description of any other procedures required to deliver the Services as mutually agreed to by the Parties.
<b>4. CONTRACT MANAGEMENT PROCEDURES</b>	Ongoing, “steady state” procedures and policies, including information on coordination activities, responsibilities of each Party (by title/function).
(a) Provider Key Personnel and Subcontractors	Procedures for Customer’s authorization regarding replacement or removal of Provider Key Personnel, Provider Staff and Provider Agents in compliance with the Agreement.
(b) Problem Resolution	Any further description of the procedures regarding the problem resolution process in the Agreement and the Parties’ respective representatives.
(c) Other relevant procedures	Other procedures required to deliver the Services as mutually agreed to by the Parties.
<b>5. RELATIONSHIP MANAGEMENT PROCEDURES</b>	Ongoing, “steady state” procedures and policies, including information on coordination activities and responsibilities of each Party (by title/function).



Content	Brief Description
(a) Satisfaction Surveys	Description of the process to be used for conducting satisfaction surveys.  Content should include procedures regarding action items and attempts to resolve Customer's issues.
(b) Customer / Provider Relationship Management	Procedures and responsibilities regarding the relationship between Customer, the Customer governance organization (including the Customer executive team) and Provider.  Content should include procedures regarding communication and coordination regarding work requests, Service delivery issues, budgeting and financial issues.
(c) Other relevant procedures	Other procedures required to deliver the Services as mutually agreed to by the Parties.
<b>6. PROVIDER OPERATIONAL PROCEDURES</b>	Ongoing, "steady state" procedures and policies, including information on coordination activities, responsibilities of each Party (by title/function).
(a) Operational Procedures	Operational processes and policies used by Provider for its interface with Customer in delivery of the Services will be set forth in the Process Interface Manual as described below in Section 4.
(b) Regulatory Compliance Policies	Customer's regulatory compliance policies and Provider's processes, procedures and methodologies utilized in the implementation of such regulatory compliance policies.
(c) Finance Policies and Procedures	Customer's finance policies and procedures and Provider's processes, procedures and methodologies utilized in the implementation of such finance policies and procedures.
(d) Quality Assurance Procedures	Provider's quality management procedures relating to the provision of the Services including the checkpoint reviews, testing and acceptance procedures.
(e) Information Security Controls Procedures	Detailed data, network and physical access requirements and procedures that will define the security controls that Provider will implement as part of the Services will be set out in the Customer Security Document as set forth in <b>Schedule 9</b> .

#### 4. PROCESS INTERFACE MANUAL CREATION AND UPDATES

The IBM Process Interface Manual describes the operational processes and policies used by Provider's Global Service Delivery organization to deliver agreed services for Customer.

#### **4.1 Provider Responsibilities .**

- (A) Provider will incorporate into the Process Interface Manual relevant operational processes, applicable standards, policies and requirements employed by Provider in providing the Services, including:
  - (1) Existing approved operational processes collected from Customer Group, including interfaces between Customer and Provider Managed Operations service offerings; and
  - (2) New operational process, subject to Customer's prior written authorization, required for the operation and governance of the Agreement.
- (B) Provider will maintain the Process Interface Manual in a current state during the Term. Updates will include:
  - (1) Regularly revise, subject to mutual agreement by Customer and Provider, to support enhancements and changes to operational processes and interfaces, to support the services as described in Infrastructure & End User SOWs;
  - (2) Add new operational processes and interfaces, subject to mutual agreement by Customer and Provider, to support changes in contracted services required for the operation and governance of the Agreement; and
  - (3) Deletion of obsolete operational processes and interfaces, subject to mutual agreement by Customer and Provider, to support changes in contracted services.
  - (4) Deleted operational processes and interfaces will be logged with the date and reason for deletion.
- (C) Changes to the Process Interface Manual will be made in accordance with the Change Control Procedures.

#### **5. PROCESS INTERFACE MANUAL CONTENT**

The Process Interface Manual will include the content and topics described below and any other content and topics required in the applicable SOW.

Content	Brief Description
<b>OPERATIONAL PROCESSES</b>	Ongoing, “steady state” services and interfaces used by Provider Service Delivery to deliver agreed services for Customer. Chapters include description of services, scope, responsibility matrix, support requests, procedures, polices and guidelines and other relevant information needed by Provider to deliver the services.
a) Application Administration Account Details	Overview of services and interfaces related to Application Administration / Middleware Management
b) Asset Management Account Details	Overview of services and interfaces related to Asset Management
c) Availability Management Account Details	Overview of services and interfaces related to Availability Management
d) Backup and Restore Support Service Details	Overview of services and interfaces related to Backup and Restore Management
e) Capacity and Performance Management Account Details	Overview of services and interfaces related to Capacity and Performance Management.
f) Change / Release / Deployment Management Account Details	Overview of services and interfaces related to Change / Release / Deployment Management.
g) Console Operations Service Details	Overview of services and interfaces related to Console Operations Management.
h) Database Support Service Details	Overview of services and interfaces related to Database Management.
i) Disaster Recovery Account Details	Overview of services and interfaces related to Disaster Recovery Management.
j) Event Management Account Details	Overview of services and interfaces related to Event Management.
k) Identity and Access Management Account Details	Overview of services and interfaces related to Identity and Access Management.
l) Incident / Major Incident Support Service Details	Overview of services and interfaces related to Incident / Major Incident Management.
m) Infrastructure Support Service Details	Overview of services and interfaces related to Infrastructure Services Management.
n) Knowledge Management Account Details	Overview of services and interfaces related to Knowledge Management.
o) Network Support Service Details	Overview of services and interfaces related to Network Service Management.



Content	Brief Description
p) Problem Management Account Details	Overview of services and interfaces related to Problem Management.
q) Production Control Support Service Details	Overview of services and interfaces related to Production Control Management.
r) Request Fulfillment Account Details	Overview of services and interfaces related to Request Fulfillment Management.
s) Security Management Account Details	Overview of services and interfaces related to Security Management.
t) Service Level Management Account Details	Overview of services and interfaces related to Service Level Management
u) Storage Support Service Details	Overview of services and interfaces related to Storage Management
v) System Support Service Details	Overview of services and interfaces related to System Management
w) Remote site visit checklist	Checklist for observations, actions, and feedback upon completion of remote site review

## SCHEDULE 8

### EMPLOYEE MATTERS

This is **Schedule 8** (Employee Matters) (this “**Schedule**”) to the MSA by and between Juniper Networks, Inc. and International Business Machines Corp. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

#### 1. INTRODUCTION

##### 1.1 General

This **Schedule 8** (Employee Matters) contains provisions affecting Provider’s offers of employment to the Affected Employees, terms and conditions of Provider’s employment of New Provider Employees on and after their Employment Effective Dates and the Provider employee benefits to be provided to the New Provider Employees upon commencement of their employment with Provider. Nothing in this Schedule is intended to create any right or cause of action in or on behalf of any Person other than Customer or Provider.

#### 2. AFFECTED EMPLOYEES

- (A) For purposes of the Agreement, “**Affected Employees**” means all Customer Group personnel who would receive offers to transition to Provider and perform the in-scope information technology infrastructure activities. It is anticipated that the Affected Employees will include all Customer Group personnel in the following Customer information technology organization areas: (1) End User, (2) Infrastructure and (3) Applications.
- (B) Without limiting the foregoing, **Exhibit A** (Affected Employees) to this Schedule sets forth a list of known Affected Employees by name, title and information technology organization area. If an Affected Employee accepts the offer of employment made by Provider as described below in **Article 3**, such individual will become an employee of Provider or a Provider Agent engaged by Provider but only to the extent set forth in **Section 2.2** (hereafter referred to as “**New Provider Employee**”) and will be deemed Provider Staff for purposes of the Agreement. Provider must meet the following criteria with respect to the offers of employment to the Affected Employees and for the transition and employment to New Provider Employees. The “**Employment Effective Date**” for each such New Provider Employee will be the effective date on which Provider actually employs such individual. Provider will bear all Provider costs incurred in complying with the provisions set forth in this Schedule.

##### 2.2 Anticipated Timeline of Events

It is anticipated that the events described below will occur on or about their corresponding date:

- Affected Employees will receive an offer of employment from Provider or a Provider Agent (in the case of Provider Agents, only with regard to countries other than the US or India) on the terms herein no later than March 1, 2019 (the date each such Affected Employee receives an offer of employment from Provider will be referred to herein as the “**Offer Date**”).

- Affected Employees who accept Provider's offer of employment will become New Provider Employees by May 1, 2019.

### 3. EMPLOYMENT OFFERS

#### 3.1 Offers of Employment

- (A) Provider understands and acknowledges the importance to Customer that all employees of Customer Group who may be affected by this Agreement are (1) treated with respect and dignity and (2) given employment opportunities with Provider in connection with the Services provided to Customer Group for at least twelve (12) months, at which time Provider may provide other opportunities.
- (B) No later than March 1, 2019, Provider (or a Provider Agent to the extent permitted under **Section 2.2**) will offer written offers of employment to all Affected Employees (including those on leave of absence or disability so long as Customer provides each such Affected Employee's written consent to be contacted by Provider). Templates of written offers for each country with Affected Employees are attached as **Exhibit B** (Template Offer).
- (C) Provider is solely responsible for making any hiring decisions regarding Affected Employees; *provided, however*, Provider will hire each Affected Employee who:
- (1) receives an employment offer from Provider (or a Provider Agent to the extent permitted under **Section 2.2**) consistent with the terms and conditions set forth herein;
  - (2) accepts such offer of employment in accordance with the terms of the offer;
  - (3) is actively employed by Customer as of the date of such offer is extended and continues acceptable performance with the Customer, as determined by Customer in its sole discretion, up to the Employment Effective Date;
  - (4) passes the following Provider pre-employment screening requirements: criminal background, export regulation controls review/embargoed countries, proof of identity evaluation, work authorization/residence permit and denied parties list, Provider rehire eligibility, and a review of any applicable non-compete agreement that may prevent hiring; and
  - (5) is not on a leave of absence or disability leave from Customer as of the Employment Effective Date; *provided, however*, Provider will offer to hire any such Affected Employee if he/she returns to a temporary or permanent position with the Customer within six (6) months from the Employment Effective Date.
- (D) Such offers of employment will be on terms and conditions substantially similar in the aggregate (with respect to position, base salary and wages, variable compensation, equity compensation, vacation, paid time off and employee benefits) to those in effect for such Affected Employees immediately prior to the Effective Date, but in no event will they be less than the terms set forth in this **Schedule 8** (Employee Matters).

- (E) Each Affected Employee will have a seven (7) Business Day period following the Offer Date within which to accept any offer of employment from Provider;
- (F) Following the Employment Effective Date, the Affected Employees who accept the offer of employment will be deemed to be New Provider Employees and under the exclusive supervision and control of Provider, subject to Provider's policies and procedures, and Customer Group will, except as otherwise provided for in this Schedule, have no further right to participate in or control the employment of such.
- (G) Notwithstanding the foregoing, Provider will have the responsibility to manage all New Provider Employees and Provider Staff as of the Service Commencement Date.

#### 4. PROCEDURE FOR MEETINGS AND SPECIAL ACTIVITIES

- (A) Provider will coordinate with Customer, and obtain its approval which will not be unreasonably withheld, regarding plans and schedules for conducting "one-on-one sessions", "town hall sessions", and other informational meetings with all Affected Employees. A detailed description of all such events, including a proposed schedule and timeline for such events, will be set forth in the employee transition plan agreed upon by the Parties pursuant to **Section 7** (Employee Transition). Provider will hold the first such informational meeting and/or program as soon as reasonably possible after the Effective Date of the Agreement and will hold additional events before and after the letters offering employment are received by the Affected Employees.
- (B) Provider may initiate special activities to generate goodwill with the Affected Employees with the prior written approval of such programs by Customer. These activities, including costs, are the responsibility of Provider. Customer will consider requests from Provider to assist in the roll-out and implementation of these activities.

#### 5. EMPLOYMENT OF NEW PROVIDER EMPLOYEES

##### 5.1 Comparable Positions

For one (1) year following the Employment Effective Date, Provider will provide or cause to be provided to the New Provider Employees base salary and wages, variable compensation (except with regard to variable compensation for fixed term hires), equity compensation, vacation, paid time off and employee benefits on terms and conditions substantially similar in the aggregate to those in effect for the New Provider Employees as of the Effective Date, and as set forth in **Article 6** below. Provider will retain New Provider Employees for providing Services to Customer for at least one (1) year after the applicable Employment Effective Date. Provider will make every commercially reasonable effort to ensure that all Affected Employees are incentivized to remain employees through the Transition period. The foregoing requirement does not apply to a New Provider Employee who (A) voluntarily resigns from Provider, (B) is dismissed by Provider for misconduct ( e.g. , fraud, drug abuse, theft) or failure to perform duties and responsibilities, or (C) dies or is unable to work because of a disability. Any and all Affected Employees who decline the initial offer of employment from Provider will not be entitled to non-statutory or non-contractual severance payments from Provider, Customer or any Provider or Customer severance plan or arrangement.



## 5.2 Location

For a period of one (1) year, except as otherwise expressly agreed by Customer, the positions offered to the Affected Employees will add no more than thirty (30) miles to any such employee's commute, compared to such employee's commute to Customer immediately prior to the Effective Date. For example, if an Affected Employee resided thirty (30) miles from Customer immediately prior to the Effective Date, such employee's offer from Provider must be for a position no more than sixty (60) miles from such employee's residence. For locations outside of the United States, Provider acknowledges and agrees that average travel time between the Affected Employees' current work location and the proposed Provider work location is no more than twenty (20) minutes, unless otherwise agreed upon in writing by the Parties or required in accordance with Provider facility standards; *provided* that where a facilities standards issue prevents Provider from placing an Affected Employee at a location no more than twenty (20) minutes away from the current work location the Parties agree to work together in good faith to agree on another acceptable location.

## 5.3 Status , Training and Long-Term Career Opportunities

New Provider Employees will have the same status, training and career opportunities as similarly situated Provider Staff. To the extent Provider considers years of service as it relates to employment, in determining eligibility or entitlement amounts for any benefits in Provider's benefit programs or policies (such as employment, severance, paid time off), or in determining whether to minimize or eliminate any benefit eligibility periods under Provider's employee benefit plans, Provider will recognize each New Provider Employee's years of service with any and all members of Customer Group.

## 6. COMPENSATION AND BENEFITS

### 6.1 Wages

On the Employment Effective Date, Provider will pay to each New Provider Employee the same minimum rate of base compensation (whether an hourly rate of pay or annual salary, as applicable) that such New Provider Employee was receiving from Customer as of the Employment Effective Date. In addition, variable compensation will be taken into account as follows:

- (A) **Unvested Customer Equity** . For the first year following the Employment Effective Date, Provider will pay each New Provider Employee any previously granted but unvested equity as such equity vests, in accordance with Customer's current vesting schedule, subject to Customer's reimbursement to Provider of such amounts paid to each such New Provider Employee, in accordance with the invoicing and payment terms set forth in **Section 12.1** (General) of the MSA.
- (B) **Provider's Replacement for Customer's Equity Compensation**. New Provider Employees will be eligible to participate in Provider's employee equity program as of the Employment Effective Date to the same extent as similarly situated Provider employees. Additionally, for each New Provider Employee, Provider will include an amount in the Benefit Equalization Adjustment described in **Section 6.3(B)** equivalent to (1) if such New Provider Employee was employed by Customer for three (3) or more years, the average annual value of the equity such New Provider Employee received under the Customer equity program over the three (3) years from 2016 through 2018 that vested during such period; (2) if such New Provider Employee was employed by Customer for less than

three (3) years, the average annual value of the equity such New Provider Employee received under the Customer equity program during the period of time such New Provider Employee has been employed by Customer that vested during such period; and (3) if such New Provider Employee's equity has not yet had its first vest at the time of the Employment Effective Date of such New Provider Employee, the value of the equity that such New Provider Employee would have received at first vest. For purposes of calculating the average annual value, the value of the vested equity will be determined using the price of Customer common stock as of market close on the applicable equity vesting date. For purposes of foregoing (3), for calculating the value of equity such New Provider Employee would have received at first vest, the value of the vested equity will be determined using the price of Customer common stock as of market close on the Effective Date.

- (C) **Bonus** . New Provider Employees will be eligible to participate in Provider's established program designed to return a portion of revenue and pretax profit growth based on a predetermined model (" **Growth Driven Profit Sharing Plan** ") as of the Employment Effective Date to the same extent as similarly situated Provider employees. Additionally, for each New Provider Employee, Provider will include in the Benefit Equalization Adjustment described in **Section 6.3(B)** an amount equivalent to the difference between (1) Customer's average annual bonus payout to the Affected Employees at the same salary grade as the New Provider Employee immediately prior to the Employment Effective Date, averaged for the calendar years 2015 through 2017, and (2) Provider's average Growth Driven Profit Sharing Plan payout for the same period for non-executive employees in the same country as the New Provider Employee. Provider will pay each New Provider Employee any bonus amounts payable by Customer to such New Provider Employee covering the period between January 1, 2019 and April 30, 2019 as Customer notifies to Provider in writing, subject to Customer's reimbursement to Provider of such amounts paid to each such New Provider Employee, in accordance with the invoicing and payment terms set forth in **Section 12.1** (General) of the MSA.

## **6.2 Compensation Increases**

New Provider Employees will be considered for annual performance-based merit increases, incentive compensation awards, increases in variable compensation, increases in equity compensation, and other compensation increases to the same extent as similarly situated Provider Staff. New Provider Employees will be given credit for years of service at Customer when determining these increases.

## **6.3 Benefits**

- (A) Each New Provider Employee will be eligible as of his or her Employment Effective Date for participation in all Provider benefit plans in operation in that Provider entity and location and available to similarly situated employees, including health care coverage, dental, vision, employee assistance, tuition assistance, employee discount and stock purchase plan, life insurance, accidental death and dismemberment, short-term and long-term disability, flexible spending accounts, and 401(k), as well as vacation and sick leave in accordance with Provider's time off policies.

- (B) In the event that the aggregate premium costs for benefits described in this Section incurred by any New Provider Employee under Provider's benefit plans are greater than such employee's aggregate premium costs for such benefits under Customer's benefit plans, Provider will pay a benefit equalization adjustment of such difference (a "**Benefit Equalization Adjustment**") to supplement such New Provider Employee's pay. This equalization benefit will cover a period of twelve (12) months from the Employment Effective Date and be paid on a schedule agreed upon by the Parties in writing no later than one (1) week prior to the Offer Date.
- (C) Benefit Equalization Adjustments will be calculated based on a mapping to each of Customer's benefits referred to in **Section 6.3(A)** of this Schedule, including, in the case of health care coverage and dental coverage, Provider's medical or dental plans by type ( *e.g.* , PPO, HMO). 401(k) employer match Benefit Equalization Adjustment will be based on contribution to Customer's 401(k) plan as of January 1, 2019. Benefit Equalization Adjustments will be based on Customer's tier level and benefits participation as of January 1, 2019, and will be calculated after actual election of benefits. Benefit Equalization Adjustments will be calculated in the aggregate based on New Provider Employee elections. If an Affected Employee goes through a Qualifying Event as defined by applicable provisions of the Employee Retirement Income Security Act of 1974 ("**ERISA**") between January 1, 2019 and the Employment Effective Date, the Parties will agree to an equitable adjustment to any of the foregoing benefits as it relates to such Affected Employee.

## 7. EMPLOYEE TRANSITION

### (A) Employee Transition Plan

No later than seven (7) Business Days after the Effective Date of the Agreement, Provider will develop, and provide to Customer for its review, comment and approval, a detailed employee transition plan that will specify the schedule and timing of all informational meetings and programs as described in this Schedule, the duration and timing of the employee transition period, the procedures that will be followed and the date on which the Affected Employees who accept offers will start work with Provider. Such plan will include compliance with any applicable consultation or information procedures with employees or employee representative bodies. Such plan will include procedures to ensure that New Provider Employees are not adversely impacted with respect to personal cash flow or taxation by changes in the timing of payment of salaries during transfer. The following represents a tentative sequence and timing of events to which Provider will conform the employee transition plan:

Event/Activity	Timeframe
Initial informational meeting/program with all Affected Employees	Within two weeks of the Effective Date of Agreement
Additional informational meetings/activities with Affected Employees	Between the Effective Date and the Offer Date, and in any event no later than the Employment Effective Date  Meetings will include: Career Discussions 1-on-1 meetings with IBM Functional Managers
Offer of employment to all Affected Employees	No later than March 1, 2019
Length of time that offers of employment will remain “open”	Seven (7) Business Days following receipt of offer or as otherwise provided in this Schedule

The employee transition plan will be agreed upon in a writing signed by Authorized Representatives of the Parties, and will upon agreement supersede and replace the above recommended schedule and will be incorporated by this reference into this Schedule. Unless and until the employee transition plan is agreed between the Parties and subject to applicable Law, the above recommended schedule (along with the other provisions of the MSA and this Schedule) will be the binding contractual document related to the transition of employees as set forth in this Section.

**8. EMPLOYEE ELIGIBILITY**

Provider will be responsible (including financial responsibility where Customer had financial responsibility prior to the Employment Effective Date) for managing the process of obtaining and completing any applications for work permits and visas required by any New Provider Employee identified in **Exhibit A** (Affected Employees) to this Schedule following the Employment Effective Date and maintaining work permits and visas in effect as of the Employment Effective Date. Provider will also be responsible (where required by Law) for completion of Forms I-9 for the New Provider Employees. Without limiting the foregoing, with regard to Affected Employees on L-1 visas, IBM will hold its offers of employment for such Affected Employees open for a period of six (6) months from the Offer Date regardless of whether such Affected Employees have obtained H-1B visas.

**9. WARN**

Provider will work with Customer regarding the timing of transition of the hired Affected Employees in an effort to assist Customer in avoiding a violation of the WARN Act.

**10. INDEMNIFICATION**

- (A) Customer will be responsible for all Claims asserted by Affected Employees arising out of their employment with Customer prior to the Employment Effective Date, but Provider will be responsible for all Claims asserted by Affected Employees arising out of their employment with Provider.
- (B) Customer will indemnify and hold Provider harmless from and against any and all Losses, including those incurred to enforce the terms of this Schedule, incurred or suffered by Provider relating to or resulting from third-party Claims arising out of (i) Customer's employment of Affected Employees or (ii) the termination of such employment relationship by Customer with such Affected Employees, in each case, to the extent such Losses are caused by acts or omissions of Customer, including any of the following:
  - (1) Claims alleging violations of federal, state, local, international, constitutional or other Laws or any common law protecting persons or members of a protected class or category, including, without limitation, Laws prohibiting discrimination or harassment on the basis of a protected characteristic;
  - (2) Claims arising out of the California Labor Code, California's Business & Professions Code, or any other Law relating to employment;
  - (3) Claims alleging work-related injury, illness or death, except as may be covered by Customer's workers' compensation plan;
  - (4) any claims, complaints or charges for wages, benefits, commissions, bonuses, compensation, penalties, interest, or damages and other payments (including but not limited to a claim for social contributions and/or government mandated payments into health and pension schemes) which are made against Provider by any Affected Employee or Affected Employee's beneficiaries, successors or assigns or with respect to any Affected Employee by any tax or social security authorities and/or any other responsible authorities;
  - (5) Claims for failure to provide severance or termination benefits;
  - (6) Claims for workers or disability compensation or unemployment benefits; or
  - (7) Claims arising out of a determination that any Affected Employee is an employee, co-employee or joint employee of Provider pursuant to any applicable Law, and/or otherwise;
  - (8) any Claims in respect of the employment, treatment or termination of employment of any Affected Employee, including claims for unfair termination, wrongful termination, notice, redundancy and/or any claims for termination payments, discrimination, harassment or retaliation; and
  - (9) Claims for accrued employee pension or welfare benefit obligations that arose under applicable Customer plans or policies.

- (C) Provider will indemnify and hold Customer Group harmless from and against any and all Losses, including those incurred to enforce the terms of this Schedule, incurred or suffered by Customer Group relating to or resulting from third-party Claims arising out of (i) Provider's employment of Affected Employees or (ii) the termination of employment relationship by Provider with Affected Employees, in each case, to the extent such Losses are caused by acts or omissions of Provider in connection with Provider's offers of employment or the acts or omissions of Provider from the Employment Effective Date of the Affected Employees, and including any of the following:
- (1) Claims alleging violations of federal, state, local, international, constitutional or other Laws or any common law protecting persons or members of a protected class or category, including Laws prohibiting discrimination or harassment on the basis of a protected characteristic.
  - (2) Claims arising out of the California Labor Code, California's Business & Professions Code, or any other Law relating to employment;
  - (3) Claims alleging work-related injury, illness, or death, except as may be covered by Provider's workers' compensation plans;
  - (4) any claims, complaints or charges for wages, benefits, commissions, bonuses, compensation, penalties, interest, or damages and other payments (including but not limited to a claim for social contributions and/or government mandated payments into health and pension schemes) which are made against Customer and/or any member of Customer Group by any Affected Employee or Affected Employee's beneficiaries, successors or assigns or with respect to any Affected Employee by any tax or social security authorities and/or any other responsible authorities;
  - (5) Claims for failure to provide severance or termination benefits;
  - (6) Claims for workers or disability compensation or unemployment benefits; or
  - (7) Claims arising out of a determination that any Affected Employee is an employee, co-employee or joint employee of Customer pursuant to any applicable Law and/or otherwise;
  - (8) any Claims in respect of the employment, treatment or termination of employment of any Affected Employee, including claims for unfair termination, wrongful termination, notice, redundancy and/or any claims for termination payments, discrimination, harassment or retaliation; and
  - (9) Claims for accrued employee welfare benefits that arose under applicable Provider plans or policies.

For clarity, Provider will have no liability with respect to Claims from Affected Employees for Customer retirement or pension benefits that may or may not have accrued prior to the Employment Effective Date.

## 11. INDIA

The following terms apply only to Affected Employees in India:

- (A) Provider will issue offers to Affected Employees in India for fixed-term contracts of employment of one (1) year only. At the end of this one-year period, their fixed-term contract of employment will cease/expire, and Provider will have no further liability or obligation towards such employees.
- (B) Customer will obtain resignations from Affected Employees in India after Provider issues offers of employment as set forth in **Section 11(A)** of this Schedule to such Affected Employees in India. In the event Customer does not obtain resignations from such Affected Employees or any such resignations are found to be ineffective under applicable Law in a final determination by a court or tribunal, Customer will indemnify Provider from and against any and all Losses relating to or resulting from third-party Claims arising out of Customer's failure to obtain valid resignations.
- (C) Customer will make gratuity payments to all Affected Employees as prescribed under local Law, or in accordance with Customer policy. Customer agrees that such gratuity payments will also be made on a pro-rata basis to Affected Employees who have not yet completed any qualifying period of service under either local Law or Customer policy.
- (D) The Parties agree that the Affected Employees will join Provider on a "clean break" basis, and will not have any prior years of service recognized. No other liabilities or obligations that the Affected Employees were eligible for while employed with the Customer will transfer to their employment with Provider, including gratuity, superannuation, loan eligibility, leave accruals or entitlements, wages, bonuses, stocks and stock options, and any other entitlements or benefits whatsoever. Customer will settle all such benefits and entitlements directly with the Affected Employees.
- (E) The Parties will each provide additional amounts to be used as retention bonuses for New Provider Employees in India as follows. Provider's and Customer's respective contributions to the total funding amount from which retention bonuses will be paid to each such New Provider Employee (the "**Retention Bonus Fund**") will each equal [\*\*\*]. Each retention bonus payable to a New Provider Employee will be calculated based on fifteen (15) days' salary per year of service at Customer (with the salary amount being determined as of the effective date of such employee's resignation from Customer). The Parties will discuss and agree upon the timing of the notification of the retention bonus amounts to the Affected Employees in India. Provider will pay such amounts to the New Provider Employees in two equal lump sum payments on the following payment milestone dates: (1) six (6) months and (2) twelve (12) months after the Employment Effective Date of such New Provider Employees, *provided* the employee has not (a) voluntarily resigned from Provider or (b) been dismissed by Provider for misconduct ( *e.g.* , fraud, drug abuse, theft) or failure to perform duties and responsibilities prior to either payment milestone date (in which case the New Provider Employee would not be paid the applicable payment amount on such payment milestone date). In the case of any such resignation or dismissal event set forth in (a) or (b), the payment amount the New Provider Employee would have otherwise received will be deducted from the contribution amounts payable by the Parties to the Retention Bonus Fund set forth above, and the Parties' respective contributions

will continue to be made on a [\*\*\*] basis after such deduction. Customer will reimburse Provider for its [\*\*\*] portion of such amounts actually paid to each such New Provider Employee on each of the six-month and twelve-month payment milestone dates, respectively, pursuant to an invoice issued by Provider after each such payment milestone date, which amounts actually paid in total by Provider will in no event exceed the Retention Bonus Fund, in accordance with the invoicing and payment terms set forth in **Section 12.1** (General) of the MSA. For the avoidance of doubt, Provider's financial records and supporting Documentation associated with the retention bonus payments described in this Section will be subject to Customer's audit rights set forth in **Article 14** (Audits) of the MSA.

## 12. OTHER COUNTRIES

The following terms in this **Section 12** (Other Countries) apply only to Affected Employees in jurisdictions outside of the United States where the Transfer Legislation (defined below) applies, excluding India:

### TRANSFER OF UNDERTAKING (TUPE)

#### (A) No Transfer of Personnel

- (1) It is not intended that the contract of employment of any person (or any liability relating thereto) will transfer pursuant to the Transfer Legislation either on:
  - (a) the commencement of any Services under a SOW, or
  - (b) the cessation of all or part of any Services under a SOW,

Irrespective of whether Customer or a New Provider (as defined in **Schedule 4** (Termination Assistance)) takes over all or part of such Services (or services similar to them) upon termination. “ **Transfer Legislation** ” means the Transfer of Undertakings (Protection of Employment) Regulations 2006, European Communities (Protection of Employees on Transfer of Undertakings Regulations 2003, the EU Acquired Rights Directive, or similar Law anywhere in the world which provides for the automatic transfer of workers in connection with the transfer of a business or change in service provider.

- (B) If the Transfer Legislation is deemed or held to apply in connection with the commencement of Services contemplated by a SOW (or part thereof):
  - (1) Provider acknowledges that it will be liable for all liabilities resulting from the application of the Transfer Legislation;
  - (2) Provider acknowledges that Customer has made no representation regarding the application of the Transfer Legislation and that Customer has not provided any warranty or indemnity of any nature regarding the application of the Transfer Legislation or otherwise;



- (3) Provider will comply with its statutory obligations under the Transfer Legislation; and
  - (4) Provider will indemnify Customer Group from and against any and all Losses, including all Employment Liabilities resulting from, arising out of or relating to, any and all Claims arising out of the application of the Transfer Legislation. “ **Employment Liabilities** ” means all liabilities, compensation, awards, penalties, costs (including the cost of wages, salaries and other remuneration or benefits (including penalties and interest), social insurance, contributions, universal social charges, health contributions, levies, losses, claims, demands, actions, fines, damages, and reasonable expenses (including reasonable legal costs), or other payments however arising which are connected with or arising from contract or all and any Laws, including directives, statutes, secondary legislation, orders, codes of practice and common law, whether of the European Community, the Republic of Ireland, the United Kingdom or any other jurisdiction, relating to or connected with the employment of employees or the engagement of other workers, including in each case their health and safety at work.
- (C) Where the Transfer Legislation applies in connection with the assignment, novation, suspension, expiration or termination of the Services contemplated by a SOW (or part thereof) then:
- (1) Provider will indemnify Customer Group from and against any and all Losses, including all Employment Liabilities resulting from, arising out of or relating to, any and all Claims arising out of:
    - (a) any claim in connection with the termination of the employment of any of the Transferring Personnel by the Provider prior to the date of transfer of employment of the Transferring Personnel to Customer or any New Provider (as defined in **Schedule 4** (Termination Assistance) (as the case may be);
    - (b) any claim by any of the Transferring Personnel related to the period during which they were employed by the Provider up to and including the date of transfer of their employment to Customer or any New Provider (as the case may be); and/or
    - (c) any failure by Provider to comply with its obligations under the Transfer Legislation.

“ **Transferring Personnel** ” means those employees of Provider whose employment is deemed to transfer under the Transfer Legislation to Customer or any New Provider.

- (D) **Stand-Still Period** . “ **Stand-Still Period** ” means (1) where any notice is given terminating this Agreement and/or a SOW prior to the date on which it would otherwise expire, the period commencing on the date of such notice and ending on the date on which this Agreement or the SOW expires pursuant to the terms of such notice or such later date on which Provider ceases to provide the Services; or (2) where no such notice has been given, the date which falls three months before the date on

which this Agreement or the SOW would ordinarily expire. Provider agrees that during the Stand-Still Period it will:

- (1) not materially initiate or make any changes in the composition or identities of the personnel engaged in providing the Services without the prior written consent of Customer except where Provider is required to do so by applicable Law;
- (2) not materially amend or vary (or promise to amend or vary) the terms and conditions of employment (including for the avoidance of doubt, pay) of the personnel engaged in providing the Services without the prior written consent of Customer except where Provider is required to do so by applicable Law; and/or
- (3) make no commitments to personnel engaged in providing the Services whether under its information and consultation obligations under the Transfer Legislation or otherwise without Customer's prior written consent.

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**EXHIBIT A**

**AFFECTED EMPLOYEES**

[To be determined]

MA-IB-00136-2018

Schedule 8

14

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**EXHIBIT B**

**TEMPLATE OFFER**

[To be determined]

MA-IB-00136-2018

Schedule 8

15

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## SCHEDULE 9

### INFORMATION AND SYSTEM SECURITY REQUIREMENTS

#### 1. PURPOSE

- 1.1** This Information and System Security Requirements schedule sets forth the minimum requirements (“**Security Requirements Schedule**”) for Provider with respect to the Services provided for by Provider in this Agreement, and is incorporated in, and subject to, the Master Services Agreement, dated December 31, 2018 (the “**Agreement**”). These Security Requirements (“**Requirements**”) supplement Provider’s obligations under the Agreement and in no way reduces or limits Provider’s obligations under the Agreement.
- 1.2** Unless otherwise noted, terms used are defined in the Definitions section of the Master Services Agreement.
- 1.3** These Requirements are intended to protect the confidentiality of all Customer Confidential Information and Customer Data accessed, processed or transmitted (or otherwise available for same) by Provider, and the integrity and reliability of all Customer Systems, accessed, maintained, or managed by Provider and for which Provider has responsibility under the applicable Statement of Work, and for Provider Systems used to provide Services pursuant to the Agreement.

#### 2. SCOPE

- 2.1** These Requirements shall govern the protection of Customer Confidential Information, Customer Data, and Systems (to the extent applicable) including, but not limited to:
- (A) Access to, and use of, Customer Confidential Information, Customer Data, and Systems;
  - (B) Return and disposal of Customer Confidential Information and Customer Data;
  - (C) Access to, maintenance, use, and return or disposal of Information Systems used to support the provision of Services; and
  - (D) Access to, maintenance, and use of Information Systems or any off premises extensions of those systems and assets.
- 2.2** Provider agrees to comply with these Requirements at each Service Location (including, *e.g.*, hosting, data center, or co-location facility of provider) used in the performance of the Services
- 2.3** Provider is responsible for ensuring that all subcontractors and vendors of Provider, and other Provider Agents comply with these Requirements to the extent applicable to providing services and products associated with the performance of this Agreement.

### 3. STANDARD

- 3.1 The security measures described in this document apply without prejudice to any other specific statutory requirements for technical and organizational measures that may be applicable.
- 3.2 Provider shall ensure that all Systems, applications, processes, and personnel, comply with current Customer Information Security Policies at the time of execution of this Agreement. Customer may, from time to time, amend its Information Security Policies; if such amendments result in changes to the security requirements and controls to Systems, such changes shall be implemented through the Change Control Procedures; upon notice of such Change, Provider and Customer will agree on the timeframe for compliance with amended Customer Information Security Policies.
- 3.3 The Requirements described in this Information and Systems Security Requirements Schedule are based on and consistent with the security program and controls found in NIST SP 800-53 Rev. 4. Such Requirements are required to the extent applicable to the Systems, personnel, and services, and other activity used to perform the Services under the Agreement.

### 4. SECURITY REQUIREMENTS

- 4.1 Provider shall develop, implement, maintain, and monitor a comprehensive, written information security program that contains administrative, technical and physical safeguards to protect against anticipated threats or hazards to the security, confidentiality, integrity and availability of Customer Confidential Information and Customer Data, and Systems with measures that meet or exceed prevailing industry standards, as well as mandatory security requirements under Provider Laws, and other applicable laws as specified by Customer. Provider shall further ensure that its information security program covers all networks, systems, servers, computers, notebooks, laptops, PDAs, mobile phones, and other devices that process or handle Customer Confidential Information and Customer Data or allow access to Customer Systems.

During Transition, Provider shall prepare a draft Customer Security Document based on these Requirements which will describe such comprehensive information security program (“ **Customer Security Document** ” or “ **CSD** ”) taking into account the scope of Services being performed by Provider under the applicable SOW and describing the respective responsibilities of Provider and Customer. Provider shall review such draft CSD with Customer and taking into account Customer’s input, the Parties will work together to finalize and agreed upon the final Customer Security Document. Customer will provide such assistance, cooperation, information and input required to complete the CSD as reasonably requested by Provider. The CSD will be updated periodically during the term of the applicable SOW.4.2

Provider shall maintain written policies and procedures to implement and enforce the following controls, security safeguards and related activities and procedures provided however that with respect to Customer Systems for which Provider has responsibility under an applicable Statement of Work, Provider shall continue to implement and enforce such existing controls, security safeguards and related activities and procedures as Customer has implemented and is enforcing as of the Effective Date (“ **Existing Customer Security Controls** ”) unless otherwise provided in the Customer Security Document:

(A) **Access Control**

- (1) **Account Management Policy** : Maintain written access control policies and procedures that –
  - (a) Define and document the types of system accounts allowed for each system required for the business function;
  - (b) Assign account managers for system accounts;
  - (c) Authorize access to the system based on
    - (i) A valid access authorization;
    - (ii) Intended system usage; and
    - (iii) On a need-to-know basis as required by the organization or based on the users' business functions;
  - (d) Establish conditions for group and role membership; determine access authorizations ( *i.e.* , privileges) and other attributes (as required) for each account; require approvals for requests to create system accounts; establish criteria for creating, enabling, modifying, disabling accounts, particularly when users are terminated or transferred, or when individual system usage or need-to-know changes for an individual; and
  - (e) Monitor the use of system accounts.
- (2) **Access Enforcement** : Enforce approved authorizations for access to information and system resources in accordance with applicable access control policies.
- (3) **Principle of Least Privilege** : Allow only authorized accesses for users which are necessary to accomplish assigned tasks in accordance with business functions.
- (4) **Unsuccessful Login Attempts** : Enforce a limit on the consecutive number of invalid logon attempts by a user, and automatically locks the account when the maximum number of unsuccessful attempts is exceeded.
- (5) **System Use Notification** : Display a banner to users before granting access to the system that provides privacy and security notices consistent with applicable laws.
- (6) **Remote Access** : Establish and document usage restrictions, configuration/connection requirements, and implementation guidance for each type of remote access allowed; authorize remote access to the system prior to allowing such connections; and implement cryptographic mechanisms to protect the confidentiality and integrity of remote access sessions.

- (7) **Wireless Access** : Establish usage restrictions, configuration/connection requirements, and implementation guidance for wireless access; and authorize wireless access to the system prior to allowing such connections.
- (8) **Access Control for Mobile Devices** : Establish usage restrictions, configuration requirements, connection requirements, and implementation guidance for managed mobile devices; and authorize the connection of mobile devices to systems.

(B) **Awareness and Training**

- (1) Provide annual security and privacy awareness training to system users (including managers, senior executives, and contractors), including
  - (a) Onboarding and initial training for new system users;
  - (b) Specific role-based system security and privacy training, as appropriate;
  - (c) Notifying personnel of changes to security and privacy policies and procedures;
  - (d) Retaining individual training records.
- (2) **Publicly Accessible Content** : Designate individuals authorized to post information onto a publicly accessible system; train authorized individuals to ensure that publicly accessible information does not contain nonpublic information; and review the content on the publicly accessible system for nonpublic information and remove such information, if discovered.

(C) **Application Software Security**

For all software and applications developed in-house or procured from third party developers ensure software is developed and tested secure software development lifecycle practices pursuant to a documented development processes that explicitly addresses security requirements and identifies the standards and tools used in the development process.

(D) **Audit and Accountability**

- (1) **Specify Audit Events** : Verify that the systems can audit specified events and logs are enabled and/or available for such events; coordinate the security audit function with other organizational entities requiring audit-related information to guide the selection of auditable event types; and assess the auditable events to ensure adequacy of audits for response and investigation of security and privacy incidents.
- (2) **Content of Audit Records** : For those events and systems for which audit capabilities are specified ensure that the system generates audit records containing information that establishes what type of event occurred, when the event occurred (through time stamps based on internal system clocks set to consistent time zone standards), where the event



occurred, the source of the event, the outcome of the event, and the identity of any individuals or subjects associated with the event.

(3) **Audit Storage and Retention :**

- (a) Retain audit records for specified periods of time including to provide support investigations of security and privacy incidents and to meet regulatory and organizational information retention requirements.
- (b) Protect audit information and audit tools from unauthorized access, modification, and deletion.

(4) **Response to Audit Processing Failures :** Establish processes to alert security personnel in the event of an audit processing failure and for responding to such failures.

(5) **Audit Review, Analysis, and Reporting :** Periodically review and analyze system audit records for indications of suspicious or inappropriate activity, and adjust the level of audit review, analysis, and reporting for systems when there is a change in risk based on law enforcement information, intelligence information, or other credible sources of information.

(E) **Assessment, Authorization, and Monitoring**

(1) **Assessments :** Assess the security and privacy controls of identified systems and their environments of operation on an annual basis to determine the extent to which the controls are implemented correctly, operating as intended, and producing the desired outcome with respect to meeting established security and privacy requirements.

(2) **Plan :** Develop a security and privacy assessment plan that describes the scope of the assessment including:

- (a) Security and privacy controls and control enhancements under assessment;
- (b) Assessment procedures to be used to determine control effectiveness;
- (c) Assessment environment, assessment team, and assessment roles and responsibilities; and
- (d) Ensure the assessment plan is reviewed and approved by the authorizing official or designated representative prior to conducting the assessment;

- (3) **System Interconnections** : Authorize connections from the system to other systems using interconnection agreements and document, for each interconnection, the interface characteristics, security and privacy requirements, and the nature of the information communicated.
- (4) **Plan of Action and Milestones** : Develop a plan of action and milestones for systems to document the planned remedial actions of the organization to correct weaknesses or deficiencies noted during the assessment of the controls and to reduce or eliminate known vulnerabilities in the system; and updating existing plans based on findings from control assessments, impact analyses, and continuous monitoring activities.
- (5) **Authorization** : Assign a manager as the authorizing manager for the system and for any common controls inherited by the system; ensure that the authorizing manager, before commencing operations: (1) authorizes the system for processing; and (2) authorizes the common controls inherited by the system; and ensure regular updates to authorizations.
- (6) **Continuous Monitoring** : Develop a security and privacy continuous monitoring strategy and implement security and privacy continuous monitoring programs in accordance with specified metrics and for ongoing assessment of security and privacy control effectiveness.
- (7) **Internal System Connections** : Authorize internal connections to systems used to support Customer Services , and document, for each internal connection, the interface characteristics, security and privacy requirements, and the nature of the information communicated.

(F) **Configuration Management**

- (1) **Baseline Configuration** : Develop, document, and maintain under configuration control, a current baseline configuration of the system; and review and update the baseline configuration of the system when system components are installed or upgraded.
- (2) **Configuration Change Control** :
  - (a) Determine the types of changes to the system that are configuration-controlled;
  - (b) Review proposed configuration-controlled changes to the system and approve or disapprove such changes with explicit consideration for security impact analyses;
  - (c) Document configuration change decisions associated with the system;

- (d) Implement approved configuration-controlled changes to the system;
  - (e) Retain records of configuration-controlled changes to the system; and
  - (f) Monitor and review activities associated with configuration-controlled changes to the system.
- (3) **Access Restrictions for Change** : Define, document, approve, and enforce physical and logical access restrictions associated with changes to the system.
- (4) **Configuration Settings** : Establish and document configuration settings for components employed within the system that reflect the most restrictive mode consistent with operational requirements; implement the configuration settings; identify, document, and approve any deviations from established configuration settings; and monitor and control changes to the configuration settings in accordance with organizational policies and procedures.
- (5) **Least Functionality** : Configure systems to provide only essential capabilities, and prohibit or restrict the use of specific functions, ports, protocols, and/or services.
- (6) **System Component Inventory** : Develop and document an inventory of system components.
- (7) **Software Usage Restrictions** : Use software and associated documentation in accordance with contract agreements and copyright laws; track the use of software and associated documentation protected by quantity licenses to control copying and distribution; and control and document the use of peer-to-peer file sharing technology to ensure that this capability is not used for the unauthorized distribution, display, performance, or reproduction of copyrighted work.
- (8) **User Installed Software** : Maintain policies governing the installation of software by users and restrict unauthorized software installation; monitor and enforce policy compliance.
- (G) **Business Continuity and Contingency Planning**
- (1) **Contingency Plan** : Develop a contingency plan for the system that --
    - (a) Identifies essential missions and business functions and associated contingency requirements;
    - (b) Provides recovery objectives, restoration priorities, and metrics;
    - (c) Addresses contingency roles, responsibilities, assigned individuals with contact information;

- (d) Addresses maintaining essential missions and business functions despite a system disruption, compromise, or failure;
- (e) Addresses eventual, full system restoration without deterioration of the security and privacy controls originally planned and implemented;
- (f) Is reviewed and approved by appropriate senior management personnel in key business functions;
- (g) Distributes copies of the contingency plan and communicates changes to the plan to key contingency plan personnel and business functions;
- (h) Coordinates contingency planning activities with incident handling activities;
- (i) Review and update the contingency plan to address changes to the organization, system, or environment of operation and problems encountered during contingency plan implementation, execution, or testing;
- (j) Protects the contingency plan from unauthorized disclosure and modification.

- (2) **Contingency Training** : Provide contingency training to system users consistent with assigned roles and responsibilities.
- (3) **Contingency Plan Testing** : Test the contingency plan to determine the effectiveness of the plan and the organizational readiness to execute the plan; review the contingency plan test results; and initiate corrective actions, if needed.
- (4) **System Backup** : Conduct backups of user-level information contained in systems; conduct backups of system-level information contained in the system; conduct backups of system documentation including security-related documentation; and protect the confidentiality, integrity, and availability of backup information at storage locations.
- (5) **System Recovery and Reconstitution** : Provide for the recovery and reconstitution of the system to a known state after a disruption, compromise, or failure within defined time periods consistent with recovery time and recovery point objectives.

(H) **Identification and Authentication**

- (1) **Identification and Authentication Policy** : Maintain written identification and authentication policies and procedures to facilitate the implementation of identification and authentication controls:

- (a) Uniquely identify and authenticate organizational users or processes acting on behalf of organizational users.
- (b) Uniquely identify and authenticate devices before establishing a network connection.
- (c) Manage system identifiers by receiving authorization from management to assign an individual, group, role, or device identifier; selecting an identifier that identifies an individual, group, role, or device; assigning the identifier to the intended individual, group, role, or device; and preventing reuse of identifiers for a defined period of time.
- (d) Obscure feedback of authentication information during the authentication process to protect the information from possible exploitation and use by unauthorized individuals.

(2) **Strong Authentication :**

- (a) To the extent implemented under Existing Customer Security Controls, multi-factor authentication (“ **MFA** ”) shall be used to restrict access to Customer Confidential Information, Customer Data, and Customer Systems.
- (b) Where MFA is not an Existing Customer Security Control, Provider shall use authentication mechanisms and authentication methodologies described in the CSD, or if not described in the CSD, shall maintain the mechanism and methodologies in place for Customer Systems as of the Effective Date, subject to the Change Control Procedures if Customer subsequently requests a different mechanism or methodology.
- (c) Provider shall use strong authentication mechanisms and authentication methodologies that meet or exceed prevailing industry standards for similar systems as well as mandatory security requirements under applicable Provider Laws to restrict access to Provider Systems used to collect, store, or otherwise process Customer Confidential Information and Customer Data.

(I) **Incident Response**

(1) **Incident Response Planning :** Maintain a written incident response plan and policies that

- (a) Implement an incident handling capability for all and privacy incidents that includes preparation, detection and analysis, containment, eradication, and recovery;

- (b) Clearly designates responsibilities for incident response and maintenance of the incident response plan;
- (c) Provides the organization with a roadmap for implementing its incident response capability;
- (d) Describes the structure and organization of the incident response capability, and roles and responsibilities;
- (e) Identifies reportable incidents within scope of the incident response plan;
- (f) Is reviewed and approved by executive management;
- (g) Is updated to address system and organizational changes or problems encountered during plan implementation, execution, or testing;
- (h) Coordinates incident handling activities with contingency planning activities;
- (i) Incorporate lessons learned from ongoing incident handling activities into incident response procedures, training, and testing, and implement the resulting changes accordingly;
- (j) Test incident response capabilities and effectiveness;
- (k) Provide incident response training and awareness across the organization, as appropriate;
- (l) Track and document system security and privacy incidents; and
- (m) Require personnel to report suspected security, privacy and product incidents to clearly identified organizational incident response teams through defined channels.

**(J) Maintenance**

With respect to Provider Systems, maintain written maintenance policies and procedures to facilitate the implementation of system maintenance controls:

- (1) Schedule, document, and review records of maintenance, repair, or replacement on system components in accordance with manufacturer or vendor specifications and/or organizational requirements;
- (2) Approve and monitor all maintenance activities, whether performed on site or remotely and whether the system or system components are serviced on site or removed to another location;

- (3) Require explicit approval for the removal of the system or system components from organizational facilities for off-site maintenance, repair, or replacement;
- (4) Sanitize equipment to remove all information from associated media prior to removal from organizational facilities for off-site maintenance, repair, or replacement;
- (5) Check all potentially impacted security and privacy controls to verify that the controls are still functioning properly following maintenance, repair, or replacement actions;
- (6) Maintain maintenance records.

(K) **Media, End User Devices, Encryption, and Information Transmission**

- (1) Customer Confidential Information and Customer Data shall not be stored or transmitted on non-managed external devices, removable media, remote and mobile devices, including but not limited to flash/USB/thumb drives, CDs, DVDs, external hard drives and smart phones, laptops, and tablets by Provider, and Provider will prohibit or disable the use of such non-managed external and removable media and devices to the extent such restrictions are implement under Existing Customer Security Controls, and monitor their use.
- (2) Personally Identifiable Information provided or **accessed as part of Provider's Services** , Controlled Unclassified Information and other information as specifically labelled to exclude such storage shall not be stored in any email systems.
- (3) Cryptographic Protection, and Key Management with respect to Customer Systems: If and to the extent encryption is implemented under Existing Customer Security Controls,
  - (a) Encrypt the transfer of Customer Confidential Information and Customer Data, including backups, over external networks.
  - (b) Encrypt Customer Confidential Information and Customer Data when transferred via physical media.
  - (c) Encrypt Customer Confidential Information and Customer Data, including backups, at rest.
  - (d) Full-disk encryption must be implemented for all laptops, desktops and removable media.
  - (e) Authentication credentials must be protected by encryption during transmission.
- (4) Cryptographic Protection and Key Management with Respect to Provider Systems:

- (a) Encrypt the transfer of Customer Confidential Information and Customer Data, including backups, over external networks.
  - (b) Encrypt Customer Confidential Information and Customer Data when transferred via physical media.
  - (c) Encrypt Customer Confidential Information and Customer Data, including backups, at rest.
  - (d) Full-disk encryption must be implemented for all laptops, desktops and removable media.
  - (e) Authentication credentials must be protected by encryption during transmission.
- (5) Collaborative Computing Devices and Applications: Provider will prohibit remote activation of collaborative computing devices and applications unless otherwise excepted, and provide an explicit indication of use to users physically present at the devices.
- (6) Provider will transfer Confidential Information and Customer Data only in accordance with and by means of specified sharing platforms and practices, including encryption protocols, as directed by Customer and to the extent implemented under Existing Customer Security Controls.
- (7) Provider will maintain written media protection policies and procedures to facilitate the implementation of media protection controls:
- (a) Restrict access to and secure digital and system media to personnel based on defined roles.
  - (b) Sanitize digital media prior to disposal, release out of organizational control, or release for reuse using, and employ sanitization mechanisms with the strength and integrity commensurate with the security category or classification of the information.

(L) **Physical and Environmental Protection**

- (1) **Physical Access Authorizations** : Develop, approve, and maintain a list of individuals with authorized access to Provider Service Locations and Juniper facilities where Provider controls access to such facilities; issue authorization credentials for such access; review the access list detailing authorized facility access by individuals; remove individuals from the facility access list when access is no longer required.
- (2) **Physical Access Control** : Enforce physical access authorizations by verifying individual access authorizations before granting access to the facility; controlling ingress and egress to the facility using access control systems; maintain and review physical access audit logs



and visitor access records; escort visitors and monitor visitor activity; and secure, inventory, and change physical access keys/badges when such keys/badges are lost, compromised, or individuals are terminated or transferred.

- (a) **Monitor Physical Access** : Monitor physical access to facilities through video camera and monitoring to detect and respond to physical security incidents.
- (b) **Physical Environmental Controls** :
  - (i) Protect power equipment and power cabling for the system from damage and destruction.
  - (ii) Provide the capability of shutting off power to the system or individual system components in emergency situations and protect emergency power shutoff capability from unauthorized activation.
  - (iii) Provide a short-term uninterruptible power supply in the event of a primary power source loss.
  - (iv) Employ and maintain automatic emergency lighting for the system that activates in the event of a power outage or disruption and that covers emergency exits and evacuation routes within the facility.
  - (v) Employ and maintain fire suppression and detection devices/systems for the system that are supported by an independent energy source.
  - (vi) Maintain and monitor temperature and humidity levels within the facility where systems reside.
  - (vii) Protect systems from damage resulting from water leakage by providing master shutoff or isolation valves that are accessible, working properly, and known to key personnel.
  - (viii) Authorize, monitor, and control deliveries entering and exiting the facility.

(M) **Personnel Security**

- (1) Establish screening criteria based on risk for individuals filling positions, and screen individuals prior to authorizing access to specified systems;

- (2) Develop and document access agreements for organizational systems, and verify that individuals requiring access to organizational information and systems: (1) Sign appropriate access agreements prior to being granted access; and (2) Re-sign access agreements to maintain access to organizational systems when access agreements have been updated.
- (3) Establish termination procedures that include disabling system access to immediately upon termination of employment or change in employment responsibilities or positions; terminate or revoke any authenticators and credentials associated with the individual; conducting exit interviews that include a discussion of obligations with respect to confidentiality and information ownership; retrieve all security-related organizational system-related property and devices.
- (4) Review and confirm ongoing operational need for current logical and physical access authorizations to systems and facilities when individuals are reassigned or transferred to other positions within the organization.
- (5) Establish personnel security requirements including security roles and responsibilities for external providers; require external providers to comply with documented personnel security policies and procedures established by the organization; and require external providers to notify Human Resources immediately of any personnel transfers or terminations of external personnel who possess organizational credentials and/or badges, or who have system privilege.
- (6) Employ a formal disciplinary process for individuals failing to comply with established information security policies and procedures.

(N) **Risk Assessment**

With respect to Provider Systems:

- (1) **Risk Assessment Policy** : Maintain written risk assessment policies and procedures to facilitate the implementation of risk assessment controls.
- (2) **Security Categorization** : Categorize the Provider Systems and information it processes, stores, and transmits; document the security categorization results including supporting rationale, in the security plan for such system; and verify that an authorized manager approves the security categorization decision.
- (3) **Risk Assessment** : Conduct a risk assessment, including the likelihood and magnitude of harm, from the unauthorized access, use, disclosure, disruption, modification, or destruction of the Provider Systems, the information it processes, stores, or transmits, and any related information; integrate risk assessment results and risk management decisions from the

organization and missions/business process perspectives with system-level risk assessments; and document risk assessment results.

- (4) **Vulnerability Scanning and Penetration Testing (Pentest)** : perform vulnerability scans or pentests on Provider Systems in accordance with documented processes and schedules, and when new vulnerabilities potentially affecting the Provider Systems are identified and reported; assess vulnerability impact; analyze vulnerability scan or pentest reports and results from control assessments; and remediate legitimate vulnerabilities.
- (5) **Risk Response** : Respond to findings from security and privacy assessments, monitoring, and audits.

(O) **Systems and Services Acquisition and Procurement**

- (1) **Allocation of Resources** : Determine information security and privacy requirements for the Provider Systems in mission and business process planning, and ensure and establish mechanisms to incorporate information and privacy considerations are included in organization programming and budget planning.
- (2) **System Development Lifecycle** : Manage the Provider Systems incorporating information security and privacy considerations; define and document information security and privacy roles and responsibilities throughout the system development life cycle; and identify individuals having information security and privacy roles and responsibilities; and integrate the organizational information security and privacy risk management process into system development life cycle activities.
- (3) **Acquisition Process** : Established processes for including security and privacy, and functional requirements, descriptions, and criteria, explicitly or by reference, in the acquisition contract for Provider Systems.
- (4) **System Documentation** : With respect to Provider Systems,
  - (a) Obtain administrator documentation for the system, system component, or system service that describes secure configuration, installation, and operation of the system, component, or service; use and maintenance of security and privacy functions and mechanisms; and known vulnerabilities regarding configuration and use of administrative or privileged functions.
  - (b) Obtain user documentation for the system, system component, or system service that describes user-accessible security and privacy functions and mechanisms and how to effectively use those functions and mechanisms; methods for user interaction, which enables individuals to use the system, component, or service in a more secure manner and protect individual privacy; and user responsibilities in maintaining the security of the system, component, or service and privacy of individuals.

(c) Document attempts to obtain system, system component, or system service documentation when such documentation is either unavailable or nonexistent, and actions taken in response.

(d) Protect documentation.

(5) **Supply Chain Risk Management** : Establish a plan for managing supply chain risks associated with the development, acquisition, maintenance, and disposal of Provider Systems; implement the supply chain risk management plan consistently across the organization; and review and update the supply chain risk management plan to address development changes.

(6) **Unsupported System Components** : Replace system components for Provider Systems when support for the components is no longer available from the developer, vendor, or manufacturer.

(P) **System and Communications Protection with respect to Provider Systems**

(1) **Denial of Service Protection** : Protect against or limit the effects of known types of denial of service events.

(2) **Boundary Protection** : Monitor and control communications at the external boundary of the system and at key internal boundaries within the system; implement subnetworks for publicly accessible system components that are logically separated from internal organizational networks; and connect to external networks or systems only through managed interfaces consisting of boundary protection devices.

(3) Provider employs current, industry-standard protection tools and techniques, including firewalls, antivirus, network monitoring, and intrusion detection systems: employs blacklisting or whitelisting to block known malicious IP connections; and retains audit records of logs for event analysis.

(4) Provider agrees to use reasonable best practices to monitor, detect and assess unauthorized access, malicious code, suspicious exfiltration of data, and other anomalous network and system activity in a timely manner.

(5) **Secure Name/Address Resolution**

(a) Provide additional data origin authentication and integrity verification artifacts along with the authoritative name resolution data the system returns in response to external name/address resolution queries;

(b) Request and perform data origin authentication and data integrity verification on the name/address resolution responses the system receives from authoritative sources.

(Q) **System and Information Integrity with respect to Provider Systems**

- (1) **System and Information Integrity Policy** : Maintain written systems and information integrity policies and procedures to facilitate the implementation of system and information integrity controls.
- (2) **Flaw Remediation (Patching)** : Identify, report, and correct system flaws; test software and firmware updates related to flaw remediation for effectiveness and potential side effects before installation; install security-relevant software and firmware updates promptly upon release of the updates; and incorporate flaw remediation into the organizational configuration management process.
- (3) **Malicious Code Protection** : Implement malicious code protection mechanisms at system entry and exit points to detect and eradicate malicious code; automatically update malicious code protection mechanisms whenever new releases are available in accordance with organizational configuration management policy and procedures; configure malicious code protection mechanisms to perform periodic scans and real-time scans of files from external sources as the files are downloaded, opened, or executed in accordance with organizational policy; and quarantine malicious code in response to malicious code detection.
- (4) **System Monitoring** : Monitor the system to detect attacks and indicators of potential attacks; unauthorized local, network, and remote connections; and unauthorized use of systems.
- (5) **Security Alerts, Advisories, and Directives** : Receive system security alerts, advisories, and directives on an ongoing basis, and implement protective measures in response to security alerts and directives.

(R) **Controlled Unclassified Data**

To the extent implemented under Existing Customer Security Controls Provider will comply with all security controls described in NIST 800-171 as it applies to all data labeled as Controlled Unclassified Information (CUI) and systems and media, including mobile media, used to store, transmit, transport, or process CUI data.

**SCHEDULE 10**

**BACKGROUND CHECKS**

For purposes of these Background Check Guidelines and Adjudication Guidelines, Provider is referred to as the “Vendor/Supplier” and Customer is referred to as “Juniper” or “Juniper Networks”.

**VENDOR/SUPPLIER BACKGROUND CHECK GUIDELINES AND  
CERTIFICATION OF BACKGROUND CHECK FOR NON-EMPLOYEES**

**Guidelines for Background Check**

The attached Juniper Networks Adjudication Guidelines are used by Juniper in conducting internal background checks on potential Juniper employee hires. These Adjudication Guidelines are supplied in order to assist the Vendor/Supplier in identifying the factors to be reviewed when considering restrictions on employment, access to Juniper premises and/or access to Juniper’s network. Vendors/Suppliers should use this after conducting background checks on their employees who are based at/on a Juniper facility/project. Vendors/Suppliers are responsible for verifying identity, credentials, and reviewing the relevant factors for any Vendor/Supplier employee or agent who may work on Juniper Networks premises and/or access Juniper’s network. Vendors/Suppliers are responsible for evaluating whether that individual should be permitted to work on Juniper Networks premises and/or access Juniper’s network.

**Certification of Background Check**

Vendor/Supplier Name (company employing/subcontracting individual): \_\_\_\_\_

Individual’s Full Name: \_\_\_\_\_

Date the background check was completed: \_\_\_\_\_ (report date must be within the last two years).

Name of Company who performed the background check: \_\_\_\_\_

By completing this form, the Vendor/Supplier certifies it has reviewed the background check results, which comply with applicable state laws for the above-named individual. The Vendor/Supplier certifies that it has considered all factors identified by Juniper in the background adjudication guidelines as restrictions to access to Juniper premises and/or network. The Vendor/Supplier has concluded, based on these considerations, that there is no reason the individual identified above should be excluded from access to Juniper premises or network.

**Note: The individual's HR department or other authorized representative should complete this certification form. The individual cannot certify himself or herself.**

CERTIFIED ON BEHALF OF **[Insert Vendor/Supplier Name]** BY

\_\_\_\_\_  
Name (Print)                      Name (Sign)

\_\_\_\_\_  
Title (Print)                      Date

MA-IB-00136-2018

**JUNIPER NETWORKS ADJUDICATION GUIDELINES**

**[Attachment to Vendor/Supplier Certification]**

The attached Juniper Networks Adjudication Guidelines are provided in order to assist the Vendor/Supplier in identifying the factors that Juniper expects Vendor/Supplier to review for those individuals who will be provided by Vendor/Supplier, and given access to Juniper premises and/or access to Juniper’s network. Vendors/Suppliers should use this after conducting background checks on such individuals to determine whether they are acceptable candidates for providing work to Juniper.

<b>Adjudication Request Status</b>	<b>Explanation</b>
MEETS STANDARDS (RECOMMENDED)	The individual’s background check results do not trigger any of the defined adjudication criteria, allowing the placement process to continue
DOES NOT MEET STANDARDS (NOT RECOMMENDED)	The individual’s background check results have triggered the defined criteria for exclusion from Juniper projects.

**Meets Company Standards Classification**

If an individual is classified as “Meets Company Standards,” the placement process may proceed with no delay.

**Does Not Meet Standards Classification**

If an applicant is classified as “Does Not Meet Standards” the Vendor/Supplier should review the nature of the discrepancy, the time elapsed, and the nature of the job for which the applicant is being considered. However, if the Vendor/Supplier has found that the individual’s background check results have triggered the defined criteria for exclusion from Juniper projects, the individual should not be permitted to work on Juniper Networks premises and/or access Juniper’s network. The Vendor/Supplier will assume any risk with placement.

**Social Security Number Trace (SSN) and Validation**

1	Valid SSN Trace (SSN has been issued by the SSA)	Meets Standards
2	SSN has not been issued (no data), belongs to deceased individual or invalid trace	Does Not Meet Standards



**Criminal Records**

1	No Record Found or clear record	Meets Standards
2	Traffic or vehicle code violation	Meets Standards (refer to MVR if included)
2a	More than one DUI/DWI within the past three years	Does Not Meet Standards
3	Misdemeanor convictions;  <b>except for the following:</b>  crimes involving weapons, violence, theft, robbery, burglary, embezzlement, dishonesty, misappropriation, fraud, or sex crimes	Meets Standards
4	Possession/Conviction of a controlled substance (Conviction for drug related crimes)	Does Not Meet Standards
5	Unresolved, active bench warrant	Does Not Meet Standards
6	Any felony or misdemeanor pending court disposition	Does Not Meet Standards
7	Any felony conviction involving: weapons, violence, theft (includes petty theft), robbery, burglary, larceny, embezzlement, dishonesty, misappropriation, fraud, or forgery, and sex crime	Does Not Meet Standards
8	Any "serious" misdemeanor conviction involving: weapons, violence, theft (includes petty theft), robbery, burglary, larceny, embezzlement, dishonesty, misappropriation, fraud, or forgery, and sex crime	Does Not Meet Standards
9	Three or more misdemeanor convictions (except excluded convictions in Item 6)	Does Not Meet Standards
10	Mob action (AKA gang activity) or Computer crimes	Does Not Meet Standards

Note: Criminal convictions within the past 7 years from date of conviction, release from prison, or end of probation, whichever occurred last (maximum time used to determine status).

Note: Criminal Note: Any Court Records that are a "Possible" match because all information could not be precisely verified; will be adjudicated as to be reviewed by vendor.

**Compliance Prohibited Parties [Department of Treasury OFAC Specially Designated Nationals and Blocked Persons list]**

1	No data is found	Meets Standards
2	Match is found	Does Not Meet Standards



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Schedule 11  
2

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## SCHEDULE 12

### DISASTER RECOVERY AND BUSINESS CONTINUITY REQUIREMENTS

This is **Schedule 12** (Disaster Recovery and Business Continuity Requirements) (this “**Schedule**”), to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

#### 1. SCOPE

The scope of Provider’s obligations described under this Schedule is limited to the Customer Systems managed by Provider and/or under Provider’s control, and Provider Systems used by Provider or Provider Agents, in the performance or provision of Services as described in the Agreement.

#### 2. MAINTAINING, UPDATING AND IMPLEMENTING PROVIDER PLANS

**2.1** In addition to Provider’s performance of any and all disaster recovery and business continuity responsibilities set forth in an SOW, with effect from the Effective Date and maintained for the duration of the Term, Provider will have in place Provider DR Plans, and with respect to all Customer Systems supported by Provider, Provider will maintain the disaster recovery and business continuity plans for such Customer Systems to the extent Customer has disaster recovery and business continuity plans in place for such Customer Systems as of May 1, 2019 (“**Customer DR Plans**”) and carry out Provider’s responsibilities under such Customer DR Plans if a disaster occurs.

**2.2** All Provider DR Plans will, taking into account any and all relevant principles, including those set out below, at a minimum:

- (A) include content and principles no less robust and protective of Customer than Customer’s own business continuity and disaster recovery plans for its applications and/or IT environment so as not to degrade in any manner the Services and/or Customer’s applications and/or IT environment;
- (B) define the disaster against which Provider DR Plans are required, which definition will include, at a minimum, an event that causes material harm, loss or damage to a facility, its people or operations;
- (C) detail the steps that Provider will take, both on an ongoing basis throughout the Term (in anticipation of the possibility of a disaster occurring) and on the occurrence of a disaster, so as to:
  - (1) prevent any loss of, destruction to or unavailability of Provider Systems, data (including Customer Data), or Service Locations;
  - (2) minimize any disruption to Provider’s performance of its obligations under this Agreement that may be caused by the onset or continuance of a disaster;

- (3) restore the Services and the availability of Provider Systems, data (including Customer Data), or Service Locations which have been affected by a disaster within defined Service Levels where appropriate and describe how, when and where restoration will occur as well as the persons involved in restoring the Services;
- (4) provide a detailed plan with respect to the procedures to be used in order to return the affected Service, Provider System, or other items to their original location after the effects of the disaster have diminished to a satisfactory level as agreed by both Parties; and
- (5) describe how and when Provider will test Provider DR Plans.

**2.3** With respect to Customer DR Plans governing each of the Customer Systems within scope of the Agreement,

(A) Customer confirms such Customer DR Plans will:

- (1) identify essential missions and business functions and associated contingency requirements;
- (2) provide recovery objectives, restoration priorities, and metrics;
- (3) address disaster recovery/contingency roles and responsibilities, and identify assigned individuals with contact information;
- (4) address maintaining essential missions and business functions despite a Customer System disruption, compromise, or failure;
- (5) provide for the recovery and reconstitution of the Customer System to a known state after a disruption, compromise, or failure within defined time periods consistent with recovery time and recovery point objectives; and
- (6) address eventual, full Customer System restoration without deterioration of the security and privacy controls originally planned and implemented.

(B) If and to the extent described in a Statement of Work, Provider will conduct backups of user-level information contained in Customer Systems; conduct backups of system-level information contained in Customer Systems; conduct backups of system documentation including security-related documentation; and protect the confidentiality, integrity, and availability of backup information at storage locations.

**2.4** Provider will review, update and test Provider DR Plans at such intervals as Provider considers appropriate in its reasonable opinion (but will do so at least once annually), taking into account any changes in the way that Provider provides or proposes to provide the Services or the way that Customer receives or proposes to receive the Services, and will throughout the Term update and revise Provider DR Plans as appropriate to take into account any newly identified threats to the provision of the Services or Customer Group's interests (including where any changes are contemplated to the manner in which Provider provides the Services or in which Provider interacts with Provider Agents, Provider Staff or Customer Agents or the way that Customer

receives the Services). If Customer so requests, Provider will allow Customer's Authorized Representatives to be present at and/or participate in such testing. Such requirements are without limitation of Customer's audit rights set forth in **Sections 14.1** (Service Audits) and **17.14(B)** (Inspection and Audit Rights) of the MSA.

- 2.5** Provider will comply with and take all steps set out in Provider DR Plans and, with regard to Customer Systems supported by Provider, subject to the following sentence, will comply with and take all steps set out as Provider's responsibilities under Customer DR Plans as well as those disaster recovery steps set forth in an SOW, including in each case steps that are required to be taken in the absence of and on the occurrence of a disaster. Upon the occurrence of a disaster triggering the implementation of a Customer DR Plan, Provider will notify Customer in writing prior to taking such steps set out in the applicable Customer DR Plan and Provider must obtain Customer's prior written approval of any restoration of Services pursuant to such Customer DR Plan. Provider will reinstate the Services within the defined recovery time periods, which time periods for Provider Systems at Service Locations will be equal to or less than seventy-two (72) hours (three (3) days) unless otherwise set forth in an SOW or agreed in writing by the Parties and which time periods, if any, for Customer Systems supported by Provider will be as set forth in an SOW unless otherwise agreed in writing by the Parties.

### **3. CUSTOMER REVIEWS**

- 3.1** The Customer DR Plans under this Agreement will be the most recently dated Customer DR Plans as of May 1, 2019. For any new Service Locations from which Provider will deliver Services, Provider will have an appropriate Provider DR Plan in place prior to the Effective Date relating to such Service Locations. If a Provider DR Plan relates to a location used only for providing services to Customer, the Provider DR Plans for such location ("**Dedicated Provider DR Plans**") will also be submitted for approval.
- 3.2** Provider will take into account any reasonable comments made by any member of Customer Group regarding Dedicated Provider DR Plans, but the Parties acknowledge that Provider ultimately retains control of the content of its DR Plans subject to **Section 3.4** hereof and Provider's adherence to the minimum requirements set forth in this Schedule.
- 3.3** The obligations of Provider under this Schedule do not affect Provider's other obligations under this Agreement (including its obligations as part of the Services), except that no obligation of Provider under this Agreement will be suspended under **Section 10.2** (Force Majeure) or excused under **Section 3.19** (Excuse from Performance) of the main body of this Agreement if Provider would have been able to perform that obligation had it performed its obligations under this Schedule. Notwithstanding **Section 3.2**, if Provider chooses not to implement any changes to its Provider DR Plans despite comments by members of Customer Group to the effect that changes to its Provider DR Plans may be required, Provider will not be excused under **Section 10.2** (Force Majeure) or under **Section 3.19** (Excuse from Performance) of the main body of this Agreement or any other provision of this Agreement from any failure to perform any of its obligations under this Agreement by reason of the occurrence or continuation of an event or circumstances, the consequences of which would have been avoided had Provider implemented such changes.

**3.4** Customer will have the right to audit all Provider DR Plans. In the event any changes need to be made to a Provider DR Plan, Provider will implement the changes agreed with Customer into the relevant Provider DR Plan, within such timeframes as agreed upon between Customer and Provider in accordance with the applicable Change Control Procedure.

#### **4. FURTHER PROVIDER'S RESPONSIBILITIES**

**4.1** Provider will ensure that:

- (A) its activities relating to business continuity and disaster recovery form an integral part of the technology selection, elimination and decision-making process of Provider;
- (B) its activities relating to business continuity and disaster recovery are included in the development life cycle of each Provider System and in accordance with the Change Control Procedures for all the Services;
- (C) its activities relating to business continuity and disaster recovery include an adequate assessment of technology related risks in connection with the Services and an assessment of impact by those risks on the overall continuity risk for Customer;
- (D) its activities relating to business continuity and disaster recovery are organized in such a manner as to ensure the functionality of its DR Plans and contain appropriate technology solutions required to support business functions;
- (E) Provider's DR Plans are documented and contain clear definitions of Provider's responsibilities for technology continuity, including responsibilities for the ownership of Provider DR Plans, test co-ordination and the initiation and co-ordination of real-life continuity efforts;
- (F) Provider DR Plans are addressed as part of development life cycle of each Provider Service Location;
- (G) Provider DR Plans are regularly maintained in a ready state that accurately reflects changes in Provider Systems' requirements, procedures, organizational support structures;
- (H) in the event any changes to technology continuity solutions are required in connection with the changes set out under **Section 4.1(D)** above, Provider's DR Plans are promptly amended in order to reflect such changes in accordance with the Change Control Procedures;
- (I) Provider DR Plans are tested as part of pre-production testing relating to any and all enhancements and on an annual basis in connection with the Service Locations.



**SCHEDULE 13**

**IBM COMPETITORS**

IBM Competitors are the following companies and their affiliates:

1. [\*\*\*]
2. [\*\*\*]
3. [\*\*\*]
4. [\*\*\*]
5. [\*\*\*]
6. [\*\*\*]
7. [\*\*\*]
8. [\*\*\*]
9. [\*\*\*]
10. [\*\*\*]
11. [\*\*\*]
12. [\*\*\*]
13. [\*\*\*]
14. [\*\*\*]
15. [\*\*\*]
16. [\*\*\*]
17. [\*\*\*]
18. [\*\*\*]
19. [\*\*\*]
20. [\*\*\*]
21. [\*\*\*]
22. [\*\*\*]
23. [\*\*\*]
24. [\*\*\*]
25. [\*\*\*]
26. [\*\*\*]
27. [\*\*\*]
28. [\*\*\*]
29. [\*\*\*]
30. [\*\*\*]
31. [\*\*\*]
32. [\*\*\*]

In the event other vendors become direct competitors with Provider's outsourcing business, Provider and Customer may use the Change Control Procedures to update this list to include other similar competitors.

## SCHEDULE 14

### DATA PROCESSING AGREEMENT

To the extent the Services involve the Processing of Customer Personal Data (each as defined below) by Provider, this Data Processing Agreement will apply. Part B of this Data Processing Agreement will apply only where, and to the extent that: (i) the Customer Personal Data relates to individuals located in the EEA (as defined below), UK or Switzerland; (ii) Customer (acting as a Controller or Processor (each as defined below)) is established in the EEA, UK or Switzerland; or (iii) Customer (acting as a Processor) is not established in the EEA, UK or Switzerland but has entered into an agreement with the Controller which is subject to EU Data Protection Laws (as defined below).

#### 1. DEFINITIONS

- 1.1** “ **Controller** ” means an entity which, alone or jointly with others, determines the purposes and means of the Processing of personal data.
- 1.2** “ **Customer Personal Data** ” means the “personal data” (meaning information about or relating to an identified or identifiable individual) described in Annex 2 and any other personal data or Personally Identified Information that Provider processes on behalf of Customer in connection with Provider’s provision of the Services.
- 1.3** “ **EU Data Protection Laws** ” means the EU General Data Protection Regulation 2016/679 of the European Parliament and of the Council (“ **GDPR** ”), any applicable national legislation implementing or supplementing the GDPR, including in each case as amended, replaced or superseded from time to time.
- 1.4** “ **European Economic Area** ” or “ **EEA** ” means the Member States of the European Union together with Iceland, Norway, and Liechtenstein.
- 1.5** “ **Processing** ” means any operation or set of operations which is performed on personal data such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction, and “ **process** ” will be interpreted accordingly.
- 1.6** “ **Processor** ” means an entity which Processes personal data on behalf of a Controller.
- 1.7** “ **Standard Contractual Clauses** ” means the Standard Contractual Clauses (processors) approved by European Commission Decision C(2010)593 set out in Annex 1 to this Data Processing Agreement or any subsequent version thereof released by the European Commission (which will automatically apply), and which includes Annex 2 (Details of the Processing and Transfer) and Annex 3 (Technical and Organisational Measures) to this Data Processing Agreement.
- 1.8** “ **Subprocessor** ” means any Processor engaged by Provider who agrees to receive from Provider Customer Personal Data.
- 1.9** “ **Supervisory Authority** ” has the meaning given in the EU Data Protection Laws.

## PART A

### 2. GENERAL

- 2.1** If applicable data protection laws and corresponding obligations for Customer or its Affiliates change, Provider will support Customer and its Affiliates and execute additional written agreements as reasonably required by the circumstances, in good faith.
- 2.2** This Data Processing Agreement and any commercial agreement between Customer and Provider will not create any third-party beneficiary rights for any individual regarding their personal data unless otherwise specified herein. With respect to Customer Personal Data, this Data Processing Agreement will take precedence over any conflicting terms in any other commercial agreements entered into between Customer and Provider.
- 2.3** This Data Processing Agreement will apply in addition to, not in lieu of, any other terms and conditions agreed with Customer, except as specifically and expressly agreed in writing with explicit reference to this Agreement.

### 3. SCOPE AND ROLES

- 3.1** **This Data Processing Agreement applies where Customer Personal Data is Processed by Provider. In this context, Provider will act as Processor to Customer who may act either as Controller or Processor with respect to Customer Personal Data.**

### 4. DATA PROCESSING

- 4.1** Provider may not Process in any manner any Customer Personal Data, except (a) on behalf of Customer, and (b) as directed by authorized personnel of Customer in writing. Without limiting the generality of the foregoing, **Provider** may not make Customer Personal Data accessible to any subcontractors or relocate Customer Personal Data to new locations, except as set forth in written agreements with, or written instructions from Customer. Customer is not providing **Provider** with Customer Personal Data for any consideration for any service and any service **Provider** provides to Customer is not consideration for Customer providing **Provider** with Customer Personal Data.

### 5. DATA SECURITY, AUDITS AND BREACH NOTIFICATIONS

- 5.1** Provider must implement and maintain organizational and technical security safeguards, and at a minimum, Provider must comply with Customer's Information and System Security Requirements ( **Schedule 9** of the Agreement), Disaster Recovery and Business Continuity Management requirements ( **Schedule 12** of the Agreement), and Customer Information Security Policies provided in advance in writing, unless Customer has expressly approved Provider's own information security policy in writing as an alternative (in which case Provider must comply with the approved version of Provider's own policy, refrain from making any changes that reduce the level of security, and provide 30 days' prior written notice to Customer of any significant changes to Provider's own information security policy). If Provider adheres to SSAE 16 or similar or successor

standards, Provider must comply with Provider's SSAE 16 or similar or successor standards and provide Customer copies of any audit reports as well as 30 days' notice of any changes.

- 5.2** Provider must allow for and contribute to reasonable data security and privacy compliance audits by Customer and/or, at Customer's request, by an independent third party, to verify compliance with applicable Law, this Data Processing Agreement and any other applicable contractual undertakings to the extent set forth in the Agreement.
- 5.3** If Provider becomes aware of, or suspects that, a Security Incident has occurred, Provider must notify Customer without undue delay, consult and cooperate with investigations and potentially required notices, and provide any information reasonably requested by Customer.

## **6. COOPERATION AND ASSISTANCE**

- 6.1** At Customer's reasonable request, Provider must (a) promptly cooperate with Customer to permit Customer to meet its obligations under applicable data protection and privacy laws including providing Customer with information necessary to demonstrate compliance and Customer Personal Data in a readily useable format within 30 days of Customer's request, and (b) contractually agree to comply with the California Consumer Privacy Act, as well as similar and other frameworks, if and to the extent such frameworks apply to any Customer Personal Data that Provider comes into contact with in its provision of the Services, with any Change necessitated by such request handled through the Change Control Procedures. Where Provider indicates it is unwilling or unable to comply with the foregoing Customer request as it relates to California Consumer Privacy Act, as well as similar and other frameworks, in such law's applicable to Customer Personal Data that Provider comes into contact with in its provision of the Services, Customer may terminate the affected Service Tower or SOW under which Provider has access to such Customer Personal Data, subject to a proportionate refund of any prepaid fees, offering Termination Assistance Services as set forth in the Agreement.

## **PART B**

This Part B (comprised of clauses 7 to 12) will apply only to the extent that: (i) Customer Personal Data relates to individuals located in the EEA, UK or Switzerland; (ii) the Customer (acting as Controller or Processor) is established in the EEA, UK or Switzerland; or (iii) the Customer (acting as a Processor) is not established in the EEA, UK or Switzerland but has entered into an agreement with the Controller which is subject to EU Data Protection Laws.

## **7. TRANSFER OF PERSONAL DATA**

- 7.1** Provider will not permit, allow or otherwise facilitate Subprocessors to Process Customer Personal Data without the Customer's prior written consent. Customer agrees that Provider may use the following as Subprocessors to Process Customer Personal Data: Provider Affiliates set forth in **Schedule 11** (Provider Affiliates).
- 7.2** In respect of each Subprocessor, Provider will:

- (A) enter into a written agreement with the Subprocessor which imposes equivalent obligations on the Subprocessor with regard to its Processing of Customer Personal Data, as are imposed on Provider under this Data Processing Agreement; and
- (B) at all times remain responsible for compliance with its obligations under this Data Processing Agreement and will be liable to Customer for the acts and omissions of any Subprocessor as if they were Provider's acts and omissions.

**7.3 International Transfers of Customer Personal Data** . To the extent that the Processing of Customer Personal Data by Provider takes place in a country or territory outside the EEA, Switzerland or the UK, other than in a country or territory ensuring an adequate level of protection for the rights and freedoms of data subjects in relation to the Processing of personal data as determined by the European Commission, such Processing will be governed by the Standard Contractual Clauses. In the event of a conflict between any terms in the Standard Contractual Clauses, this Data Processing Agreement and the remainder of the Agreement, the Standard Contractual Clauses will prevail.

## **8. PROVIDER EMPLOYEES AND PERSONNEL**

**8.1** Provider will treat the Customer Personal Data as confidential, and will ensure that its employees or other personnel have agreed in writing (electronically or in any other manner) to protect the confidentiality and security of Customer Personal Data.

## **9. DATA SUBJECT RIGHTS**

**9.1** Where applicable, and taking into account the nature of the Processing, Provider will use reasonable endeavors to assist Customer by implementing technical and organizational measures in accordance with section 5.1 of this Data Processing Agreement insofar as this is possible, for the fulfilment of Customer's obligation to respond to requests for exercising data subject rights laid down in the EU Data Protection Laws.

## **10. DATA PROTECTION IMPACT ASSESSMENT AND PRIOR CONSULTATION**

**10.1** To the extent required under the EU Data Protection Laws, Provider will provide reasonable assistance to the Customer with any data protection impact assessments and with any prior consultations to any Supervisory Authority of Customer, in each case solely in relation to processing of Customer Personal Data and taking into account the nature of the Processing and information available to Provider.

## **11. TERMINATION**

**11.1 Deletion of data** . Subject to Section 11.2 below, Provider will, at Customer's election and within [\*\*\*] days of the date of termination of the Agreement:

- (A) return to, or make available for retrieval by, the Customer, all Customer Personal Data Processed by Provider (and securely delete all other copies of Customer Personal Data Processed by Provider); or

(B) securely delete the Customer Personal Data Processed by Provider.

**11.2** Provider and its Subprocessors may retain Customer Personal Data to the extent required by applicable Laws and only to the extent and for such period as required by applicable Laws and always provided that Provider will ensure the confidentiality of all such Customer Personal Data and will ensure that such Customer Personal Data is only Processed as necessary for the purpose(s) specified in the applicable laws requiring its storage and for no other purpose.

## **12. GOVERNING LAW**

**12.1** This Data Processing Agreement will be governed by, and construed in accordance with, the Law of the Member State in which the Controller is established.

**ANNEX 1**

**STANDARD CONTRACTUAL CLAUSES FOR PROCESSORS**

For the purposes of this Annex 1, references to “data exporter” and “data importer” will be to Customer and Provider respectively.

**Clause 1  
Definitions**

For the purposes of the Clauses:

- (a) “personal data”, “special categories of data”, “process/processing”, “controller”, “processor”, “data subject” and “supervisory authority” will have the same meaning as in Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data;
- (b) “the data exporter” means the controller or processor who transfers the personal data;
- (c) “the data importer” means the processor who agrees to receive from the data exporter personal data intended for processing on his behalf after the transfer in accordance with his instructions and the terms of the Clauses and who is not subject to a third country's system ensuring adequate protection within the meaning of Article 25(1) of Directive 95/46/EC;
- (d) “the sub-processor” means any processor engaged by the data importer or by any other sub-processor of the data importer who agrees to receive from the data importer or from any other sub-processor of the data importer personal data exclusively intended for processing activities to be carried out on behalf of the data exporter after the transfer in accordance with his instructions, the terms of the Clauses and the terms of the written subcontract;
- (e) “the applicable data protection law” means the legislation protecting the fundamental rights and freedoms of individuals and, in particular, their right to privacy with respect to the processing of personal data applicable to a data controller in the Member State in which the data exporter is established;
- (f) “technical and organisational security measures” means those measures aimed at protecting personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, in particular where the processing involves the transmission of data over a network, and against all other unlawful forms of processing.

**Clause 2  
Details of the transfer**

The details of the transfer and in particular the special categories of personal data where applicable are specified in Annex 2 which forms an integral part of the Clauses.

**Clause 3**

**Third-party beneficiary clause**

1. The data subject can enforce against the data exporter this Clause, Clause 4(b) to (i), Clause 5(a) to (e), and (g) to (j), Clause 6(1) and (2), Clause 7, Clause 8(2), and Clauses 9 to 12 as third-party beneficiary.
2. The data subject can enforce against the data importer this Clause, Clause 5(a) to (e) and (g), Clause 6, Clause 7, Clause 8(2), and Clauses 9 to 12, in cases where the data exporter has factually disappeared or has ceased to exist in law unless any successor entity has assumed the entire legal obligations of the data exporter by contract or by operation of law, as a result of which it takes on the rights and obligations of the data exporter, in which case the data subject can enforce them against such entity.
3. The data subject can enforce against the sub-processor this Clause, Clause 5(a) to (e) and (g), Clause 6, Clause 7, Clause 8(2), and Clauses 9 to 12, in cases where both the data exporter and the data importer have factually disappeared or ceased to exist in law or have become insolvent, unless any successor entity has assumed the entire legal obligations of the data exporter by contract or by operation of law as a result of which it takes on the rights and obligations of the data exporter, in which case the data subject can enforce them against such entity. Such third-party liability of the sub-processor will be limited to its own processing operations under the Clauses.
4. The parties do not object to a data subject being represented by an association or other body if the data subject so expressly wishes and if permitted by national law.

**Clause 4**

**Obligations of the data exporter**

The data exporter agrees and warrants:

- (a) that the processing, including the transfer itself, of the personal data has been and will continue to be carried out in accordance with the relevant provisions of the applicable data protection law (and, where applicable, has been notified to the relevant authorities of the Member State where the data exporter is established) and does not violate the relevant provisions of that State;
- (b) that it has instructed and throughout the duration of the personal data processing services will instruct the data importer to process the personal data transferred only on the data exporter's behalf and in accordance with the applicable data protection law and the Clauses;
- (c) that the data importer will provide sufficient guarantees in respect of the technical and organisational security measures specified in Annex 3 to this contract;
- (d) that after assessment of the requirements of the applicable data protection law, the security measures are appropriate to protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, in particular where the processing involves the transmission of data over a network, and against all other unlawful forms of processing, and that these measures ensure a level of security appropriate to the risks presented by the processing and the nature of the data to be protected having regard to the state of the art and the cost of their implementation;
- (e) that it will ensure compliance with the security measures;



- (f) that, if the transfer involves special categories of data, the data subject has been informed or will be informed before, or as soon as possible after, the transfer that its data could be transmitted to a third country not providing adequate protection within the meaning of Directive 95/46/EC;
- (g) to forward any notification received from the data importer or any sub-processor pursuant to Clause 5(b) and Clause 8(3) to the data protection supervisory authority if the data exporter decides to continue the transfer or to lift the suspension;
- (h) to make available to the data subjects upon request a copy of the Clauses, with the exception of Annex 3, and a summary description of the security measures, as well as a copy of any contract for subprocessing services which has to be made in accordance with the Clauses, unless the Clauses or the contract contain commercial information, in which case it may remove such commercial information;
- (i) that, in the event of subprocessing, the processing activity is carried out in accordance with Clause 11 by a sub-processor providing at least the same level of protection for the personal data and the rights of data subject as the data importer under the Clauses; and
- (j) that it will ensure compliance with Clause 4(a) to (i).

**Clause 5**  
**Obligations of the data importer**

The data importer agrees and warrants:

- (a) to process the personal data only on behalf of the data exporter and in compliance with its instructions and the Clauses; if it cannot provide such compliance for whatever reasons, it agrees to inform promptly the data exporter of its inability to comply, in which case the data exporter is entitled to suspend the transfer of data and/or terminate the contract;
- (b) that it has no reason to believe that the legislation applicable to it prevents it from fulfilling the instructions received from the data exporter and its obligations under the contract and that in the event of a change in this legislation which is likely to have a substantial adverse effect on the warranties and obligations provided by the Clauses, it will promptly notify the change to the data exporter as soon as it is aware, in which case the data exporter is entitled to suspend the transfer of data and/or terminate the contract;
- (c) that it has implemented the technical and organisational security measures specified in Annex 3 before processing the personal data transferred;
- (d) that it will promptly notify the data exporter about:
  - (i) any legally binding request for disclosure of the personal data by a law enforcement authority unless otherwise prohibited, such as a prohibition under criminal law to preserve the confidentiality of a law enforcement investigation,
  - (ii) any accidental or unauthorised access, and
  - (iii) any request received directly from the data subjects without responding to that request, unless it has been otherwise authorised to do so;

- (e) to deal promptly and properly with all inquiries from the data exporter relating to its processing of the personal data subject to the transfer and to abide by the advice of the supervisory authority with regard to the processing of the data transferred;
- (f) at the request of the data exporter to submit its data processing facilities for audit of the processing activities covered by the Clauses which will be carried out by the data exporter or an inspection body composed of independent members and in possession of the required professional qualifications bound by a duty of confidentiality, selected by the data exporter, where applicable, in agreement with the supervisory authority;
- (g) to make available to the data subject upon request a copy of the Clauses, or any existing contract for subprocessing, unless the Clauses or contract contain commercial information, in which case it may remove such commercial information, with the exception of Annex 3 which will be replaced by a summary description of the security measures in those cases where the data subject is unable to obtain a copy from the data exporter;
- (h) that, in the event of subprocessing, it has previously informed the data exporter and obtained its prior written consent;
- (i) that the processing services by the sub-processor will be carried out in accordance with Clause 11;
- (j) to send promptly a copy of any sub-processor agreement it concludes under the Clauses to the data exporter.

**Clause 6**  
**Liability**

1. The parties agree that any data subject, who has suffered damage as a result of any breach of the obligations referred to in Clause 3 or in Clause 11 by any party or sub-processor is entitled to receive compensation from the data exporter for the damage suffered.
2. If a data subject is not able to bring a claim for compensation in accordance with paragraph 1 against the data exporter, arising out of a breach by the data importer or his sub-processor of any of their obligations referred to in Clause 3 or in Clause 11, because the data exporter has factually disappeared or ceased to exist in law or has become insolvent, the data importer agrees that the data subject may issue a claim against the data importer as if it were the data exporter, unless any successor entity has assumed the entire legal obligations of the data exporter by contract or by operation of law, in which case the data subject can enforce its rights against such entity.

The data importer may not rely on a breach by a sub-processor of its obligations in order to avoid its own liabilities.

3. If a data subject is not able to bring a claim against the data exporter or the data importer referred to in paragraphs 1 and 2, arising out of a breach by the sub-processor of any of their obligations referred to in Clause 3 or in Clause 11 because both the data exporter and the data importer have factually disappeared or ceased to exist in law or have become insolvent, the sub-processor agrees that the data subject may issue a claim against the data sub-processor with regard to its own processing operations under the Clauses as if it were the data exporter or the data importer, unless any successor entity has assumed the entire legal obligations of the data exporter or data importer by contract or by operation of law, in which case the data subject can enforce its rights against such entity. The liability of the sub-processor will be limited to its own processing operations under the Clauses.

**Clause 7**  
**Mediation and jurisdiction**

1. The data importer agrees that if the data subject invokes against it third-party beneficiary rights and/or claims compensation for damages under the Clauses, the data importer will accept the decision of the data subject:
  - (a) to refer the dispute to mediation, by an independent person or, where applicable, by the supervisory authority;
  - (b) to refer the dispute to the courts in the Member State in which the data exporter is established.
2. The parties agree that the choice made by the data subject will not prejudice its substantive or procedural rights to seek remedies in accordance with other provisions of national or international law.

**Clause 8**  
**Cooperation with supervisory authorities**

1. The data exporter agrees to deposit a copy of this contract with the supervisory authority if it so requests or if such deposit is required under the applicable data protection law.
2. The parties agree that the supervisory authority has the right to conduct an audit of the data importer, and of any sub-processor, which has the same scope and is subject to the same conditions as would apply to an audit of the data exporter under the applicable data protection law.
3. The data importer will promptly inform the data exporter about the existence of legislation applicable to it or any sub-processor preventing the conduct of an audit of the data importer, or any sub-processor, pursuant to paragraph 2. In such a case the data exporter will be entitled to take the measures foreseen in Clause 5 (b).

**Clause 9**  
**Governing Law**

The Clauses will be governed by the law of the Member State in which the data exporter is established.

**Clause 10**  
**Variation of the contract**

The parties undertake not to vary or modify the Clauses. This does not preclude the parties from adding clauses on business related issues where required as long as they do not contradict the Clause.

**Clause 11**  
**Subprocessing**

1. The data importer will not subcontract any of its processing operations performed on behalf of the data exporter under the Clauses without the prior written consent of the data exporter. Where the data importer subcontracts its obligations under the Clauses, with the consent of the data exporter, it will do so only by way of a written agreement with the sub-processor which imposes the same obligations on the sub-processor as are imposed on the data importer under the Clauses. Where the sub-processor fails to fulfil its data protection obligations under such written agreement the data importer will remain fully liable to the data exporter for the performance of the sub-processor's obligations under such agreement.

2. The prior written contract between the data importer and the sub-processor will also provide for a third-party beneficiary clause as laid down in Clause 3 for cases where the data subject is not able to bring the claim for compensation referred to in paragraph 1 of Clause 6 against the data exporter or the data importer because they have factually disappeared or have ceased to exist in law or have become insolvent and no successor entity has assumed the entire legal obligations of the data exporter or data importer by contract or by operation of law. Such third-party liability of the sub-processor will be limited to its own processing operations under the Clauses.
3. The provisions relating to data protection aspects for subprocessing of the contract referred to in paragraph 1 will be governed by the law of the Member State in which the data exporter is established.
4. The data exporter will keep a list of subprocessing agreements concluded under the Clauses and notified by the data importer pursuant to Clause 5 (j), which will be updated at least once a year. The list will be available to the data exporter's data protection supervisory authority.

#### **Clause 12**

##### **Obligation after the termination of personal data processing services**

1. The parties agree that on the termination of the provision of data processing services, the data importer and the sub-processor will, at the choice of the data exporter, return all the personal data transferred and the copies thereof to the data exporter or will destroy all the personal data and certify to the data exporter that it has done so, unless legislation imposed upon the data importer prevents it from returning or destroying all or part of the personal data transferred. In that case, the data importer warrants that it will guarantee the confidentiality of the personal data transferred and will not actively process the personal data transferred anymore.
2. The data importer and the sub-processor warrant that upon request of the data exporter and/or of the supervisory authority, it will submit its data processing facilities for an audit of the measures referred to in paragraph 1.

**ANNEX 2**

**DETAILS OF THE PROCESSING AND TRANSFER OF CUSTOMER PERSONAL DATA**

**Data Exporter**

Customer (The Customer Group)

**Data Importer**

Provider (International Business Machines, Corp.)

**Data subjects**

The personal data transferred concern the following categories of data subjects (please specify): [\*\*\*]

**Categories of data**

[\*\*\*]

**Special categories of data (if appropriate)**

[\*\*\*]

**Processing operations**

The personal data transferred will be subject to the following basic processing activities: [\*\*\*]

**ANNEX 3**

**TECHNICAL AND ORGANISATIONAL SECURITY MEASURES**

The measures set forth **Schedule 9** (Information and System Security Requirements) will govern.

MA-IB-00136-2018

Schedule 14  
13

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**SCHEDULE 15**

**CUSTOMER COMPETITORS**

Customer Competitors include the following companies and their affiliates:

1. [\*\*\*]
2. [\*\*\*]
3. [\*\*\*]
4. [\*\*\*]
5. [\*\*\*]
6. [\*\*\*]
7. [\*\*\*]
8. [\*\*\*]
9. [\*\*\*]
10. [\*\*\*]
11. [\*\*\*]
12. [\*\*\*]
13. [\*\*\*]
14. [\*\*\*]
15. [\*\*\*]
16. [\*\*\*]
17. [\*\*\*]
18. [\*\*\*]
19. [\*\*\*]
20. [\*\*\*]
21. [\*\*\*]
22. [\*\*\*]
23. [\*\*\*]
24. [\*\*\*]
25. [\*\*\*]

In the event other companies become direct competitors with Customer's business, Provider and Customer may use the Change Control Procedures to update this list to include other similar competitors.

## **SCHEDULE 16**

### **CUSTOMER CODE OF CONDUCT**

For purposes of this Customer Code of Conduct, Provider is referred to as a “Juniper business partner” or “business partner” and Customer is referred to as “Juniper” or “Juniper Networks”.

Juniper Networks’ identity and success is built on a foundation of integrity, honesty, and ethical conduct. This foundation depends on our alignment on these values with business partners who share a strong commitment to ethical business practices.

This Business Partner Code of Conduct (the “ **Code** ”) articulates a shared vision and set of expectations for Juniper and our business partners. By this Code, Juniper expresses its support for the Code of Conduct established by the Electronic Industry Citizenship Coalition (EICC) and the Ten Principles of the United Nations Global Compact.

#### **Applicability**

The Code applies to all Juniper business partners including, but not limited to, distributors, resellers, service providers or other vendors, or service, alliance, or education partners. It is applicable to the partner entity and their personnel in all activities related to Juniper’s business relationship globally. The English-language version of this Code will govern.

#### **Relationship of the Parties**

Juniper and their business partners are independent contractors and neither party will be considered the agent of the other party for any purpose whatsoever. Nothing in this Business Partner Code of Conduct will be construed as establishing a partnership or joint venture between the parties.

#### **Certification**

Where required, each business partner covered by the Business Partner Code of Conduct will have an authorized representative certify that they have read and understood the Code and that the Juniper business partner and its personnel are committed to complying with the principles of these standards.

#### **Integrity and Compliance with Laws**

##### **Anti-Bribery Compliance**

Juniper is committed to conducting its business free from extortion, bribery, and all unlawful, unethical or fraudulent activity.

Juniper business partners must not, directly or indirectly, make, offer, or authorize the payment of any money, gift, bribe, kickback, or anything of value to any customer, any government official or government employee, any Juniper employee, or any other Person to improperly influence any action or decision.



Juniper business partners will use any Juniper assets or funds paid to or entrusted with them (such as non-standard discount, rebates or MDF) only for the specific purpose authorized or intended.

Juniper business partners must comply with all applicable local and international anti-bribery laws.

**Financial Integrity and Accounting**

Juniper business partners will keep complete and accurate books and records regarding sales of Juniper products and any and all transactions or other expenditures with respect to any Juniper-related business. Juniper business partners must not engage in false and/or misleading accounting practices, including but not limited to creating “slush funds” or other improper financial practices.

**Honest and Accurate Dealings**

Juniper business partners must not make any false representations in connection with any Juniper transactions, including, but not limited to, oral misrepresentations of fact, the promotion or utilization of false Documentation such as non-genuine customer purchase orders, fraudulent or forged contracts, or other false or inaccurate records.

**Fair Competition**

Juniper’s business partners must not:

- agree with other partners or companies to coordinate or fix prices,
- agree with other companies to boycott suppliers or customers,
- agree with other companies to divide or allocate markets or customers, or
- propose or enter into an agreement or understanding restricting resale price of Juniper products.

**Conflicts of Interest**

Juniper business partners must not engage in any activity that may involve an inappropriate conflict or the appearance of a conflict with their contractual responsibilities owed to Juniper. Juniper business partners must not offer or provide excessive gifts, hospitality, or entertainment to any Juniper employee or their family members. Juniper business partners acknowledge that Juniper employees and their family members may not hold any significant economic interest in any entity that does business with Juniper, and Juniper business partners will avoid such relationships with Juniper employees.

**Insider Trading and Improper Commercial Advantage**

Juniper business partners will ensure that non-public information entrusted to them by Juniper in the course of their relationship with Juniper is not used for the personal benefit of the partner, their employees, or other Persons.

### **Protection of Confidential Information**

Juniper business partners will protect confidential and any other proprietary information that is obtained in the course of the business relationship with Juniper or joint customers. Juniper business partners must not misuse this information for their own purposes or disclose such information to unauthorized third parties. Juniper business partners will observe applicable data privacy and information security requirements when handling Juniper or joint customer information.

### **Intellectual Property**

Juniper business partners must not infringe Juniper's trademarks and other intellectual property rights. Juniper business partners must not infringe on the intellectual property rights of joint customers or other third parties in any manner relevant to their relationship with Juniper.

### **Government Sector Sales**

In addition to the Anti-Bribery Compliance requirements outlined above, certain additional restrictions may apply to Juniper business partners engaged directly or indirectly in government sector sales. Juniper business partners will observe all laws, regulations, and contract clauses that relate to sales to government entities.

### **Export Compliance**

Juniper business partners are expected to have and follow a documented export control program designed to assure compliance with U.S. and all other applicable export and import laws and regulations when handling or distributing export-controlled materials or product. Juniper product and services often contains sensitive technology that is highly regulated and may only be distributed to end users and always in compliance with any trade embargoes and sanctions. For questions regarding export compliance, contact [compliance\\_helpdesk@juniper.net](mailto:compliance_helpdesk@juniper.net).

### **Responsible Business Partner Conduct**

Juniper business partner personnel will conduct themselves in a professional manner while representing Juniper products and services in the marketplace. This means treating all Persons with dignity and respect in a business-like manner while marketing, selling, or supporting Juniper products and services.

### **Responsible Sourcing of Minerals**

Juniper business partners are expected to comply with any affirmative obligations imposed by law to reasonably assure business partners that tantalum, tin, tungsten and gold that may be contained in the products they manufacture do not directly or indirectly finance or benefit armed groups that are perpetrators of serious human rights offenses in conflict-affected and high-risk regions, such as the Democratic Republic of Congo or an adjoining country. Juniper business partners are expected to exercise due diligence on the ethical source and chain of custody of these minerals and make their due diligence measures available to Juniper upon request.

## **Labor Standards**

Juniper business partners are expected to treat their employees fairly and in accordance with applicable laws and regulations regarding labor and employment and to pursue the following principles.

### **Freely Chosen Employment**

Employment with Juniper business partners must be an expression of free choice and there should be no forced, bonded or involuntary labor, or slavery or trafficking of Persons. Juniper business partners should allow workers to discontinue employment upon reasonable notice. Juniper business partners should not hold or otherwise destroy, conceal, confiscate, or deny access by employees to their identity or immigration documents, such as government-issued identification, passports or work permits, unless such actions are required by law.

### **Child Labor Avoidance and Working Hours**

Juniper business partners must not use child labor and Juniper business partners are expected to adopt procedures to verify and maintain Documentation that no child labor is used. Juniper business partners must follow all applicable local laws, regulations and standards concerning working hours, conditions and wage rate for all workers. Workers under the age of 18 (Young Workers) will not perform work that is likely to jeopardize their health or safety.

### **Lawful Employment**

Juniper business partners must, prior to employing any worker, validate and review all relevant Documentation to ensure that such worker has the legal right to work in that jurisdiction.

### **Non-Discrimination**

Juniper business partners must not unlawfully discriminate on the basis of race, color, age, gender, sexual orientation, gender identity or expression, ethnicity or national origin, disability, pregnancy, religion, veteran status, or marital status.

### **Freedom of Association**

Juniper business partners must respect the legal rights of employees to join or to refrain from joining worker organizations, including trade unions. Juniper business partners have the right to establish favorable employment conditions and to maintain effective employee communication programs as a means of promoting positive employee relations that make employees view third-party representation as unnecessary.

### **Safe Conditions**

Juniper business partners must provide a safe and hygienic working environment for workers and are expected to provide appropriate safety equipment and training.

### **Wage and Benefits**

Juniper business partners must provide wages, benefits, and overtime pay required by all local wage and hour laws and regulations including those relating to minimum wages, overtime hours, piece rates, and other elements of compensation, and provide legally mandated benefits.

### **Environmental Standards**

Juniper business partners must comply with all applicable laws and regulations relating to the impact of their business on the environment. Compliance with environmental law includes any international or applicable local laws affecting the source of materials and processes used to manufacture or deliver products and services.

### **Pollution Prevention and Resource Conservation**

Juniper business partners are expected to take steps to ensure conservation of resources and reduction of waste generation of all types, including water, energy, and air emissions, by elimination or reduction at the source or by practices such as recycling and re-using materials, materials substitution, and modification of processes. Juniper business partners are expected to avoid undue and unnecessary use of packaging materials and utilize recycled materials whenever appropriate.

### **Hazardous Substances**

Juniper business partners are expected to adhere to all applicable laws and regulations regarding prohibition or restriction of specific substances in products and manufacturing. Chemicals and other materials posing a hazard if released to the environment should be identified and managed to ensure their safe handling, movement, storage, use, and disposal.

### **Energy Consumption**

Juniper business partners are expected to look for cost-effective methods to improve energy efficiency and to minimize their energy consumption and greenhouse gas emissions.

### **Monitoring and Compliance**

Juniper may audit or request information to confirm compliance with this Code or appoint a third party to conduct an audit. Any violations will be reported to the Juniper business partner's management for their attention and, if appropriate, corrective action will be taken. It is the intention of Juniper to terminate its relationship with any business partner who does not comply with this Code or, upon discovery of noncompliance, does not commit to a specific plan to achieve compliance.

Juniper business partners and other stakeholders may report suspected violations (confidentially and anonymously when allowed by law) to the Juniper Integrity and Compliance Group by calling the Juniper Integrity Hotline at 1-888-475-8388 (U.S. Toll Free) or reporting online to [Integrity@Juniper.net](mailto:Integrity@Juniper.net) or at [www.juniper.ethicspoint.com](http://www.juniper.ethicspoint.com).

**SCHEDULE 17**

**EXTENDED PAYMENT PLAN**

This is **Schedule 17** (Extended Payment Plan) (this “ **Schedule** ”), to the MSA by and between Juniper Networks, Inc. and International Business Machines Corporation. Unless otherwise expressly defined in this Schedule, the capitalized terms used in this Schedule have the meaning assigned to them in the MSA.

**1. INTRODUCTION**

**1.1** This **Schedule 17** (Extended Payment Plan) sets forth the terms and conditions governing an extended payment plan available to Customer (“ **Extended Payment Plan** ”).

- (A) **Effective Date.** As of the Effective Date, Customer Permitted Entities (defined below) have elected to pay the amounts invoiced under the Agreement in accordance with the extended payment terms and conditions as set forth more particularly below.
- (B) **Customer Permitted Entities .** The Extended Payment Plan applies only to the Customer and the following Customer Affiliates (“**Customer Permitted Entities**” ) and does not extend to any other Customer Affiliate unless specifically agreed in writing by Provider or Provider Affiliate:

<b>Customer Permitted Entities</b>	<b>Address</b>
Juniper Networks, Inc.	1133 Innovation Way Sunnyvale, California 94089
JUNIPER NETWORKS INDIA PRIVATE LIMITED*	Plot# 65/2, 3rd Floor, Bagmane Tridib Bagmane Tech Park, C.V.Raman Nagar Bangalore, 560093 India

\*While Provider has provisionally included Juniper Networks India Private Limited (“ **Juniper India** ”) above as a Customer Permitted Entity, Provider and Customer will work in good faith to extend the EPP to the Local Services Agreement executed for Juniper India, and Customer will provide a parent guarantee in form and substance for satisfactory to the Parties for amounts owed by Juniper India, and other Customer Permitted Entities that may be agreed to be added in the future. Upon Provider’s approval of Juniper India as a Customer Permitted Entity, it shall provide written notice of such approval to Customer. In the event of the failure of the parties to agree to extend EPP terms into the Local Services Agreement, Juniper India’s payments will be due in accordance with the thirty- (30-) day payment terms in **Section 12.1** of the MSA.

- (C) **Order of Precedence.** Notwithstanding **Section 3.1(H)** of the MSA or any other provision in the Agreement or any other document to the contrary, *provided* the Extended Payment Plan set forth herein remain in effect or Undisputed EPP Fees (as defined in **Section 3.A.** of this **Schedule 17** )

remain due and payable, then solely as to Undisputed EPP Fees paid or Undisputed EPP Fees to be paid by Customer pursuant to the Extended Payment Plan, the terms of the Extended Payment Plan set forth herein shall take precedence over any other provision of the Agreement (including, over any other schedules, attachments, exhibits or subsequent modifications and amendments thereto) or any other inconsistent terms that permit Customer Permitted Entities to delay payment, setoff or withhold any Undisputed EPP Fee solely for the purposes of the Extended Payment Plan and no other purpose.

(D) **EPP Definitions.**

“**EPP Fees**” means the Fees payable by Customer Permitted Entities as set forth in the Agreement. For the purposes of the extended payment plan as set forth in this **Schedule 17** (Extended Payment Plan), EPP Fees shall also include any applicable taxes for which Customer Permitted Entity is responsible as set forth on an invoice under the Extended Payment Plan.

**2. INVOICING AND PAYMENT**

**2.1 Invoicing.** Notwithstanding the provisions of **Section 12.1** (Fees and Payments) of the MSA, Provider or Provider Affiliate shall invoice a Customer Permitted Entity for the fixed amounts due under the Agreement on a monthly basis on or before the [\*\*\*] day of each month for Services to be provided for that month, adjusted for any variable amounts due or credits owing from the previous month (including credits related to variable unit pricing ( e.g., RRCs) under the applicable Statement of Work). For those amounts that a Customer Permitted Entity has determined are Undisputed EPP Fees in accordance with **Section 3.B.** (Undisputed EPP Fees) of this **Schedule 17** (Extended Payment Plan), such Customer Permitted Entity shall pay the invoice amount in two equal payment installments, the first payment installment is due on the [\*\*\*] day of the [\*\*\*] month and the second payment installment is due on the [\*\*\*] day of the [\*\*\*] month, following the month in which the original invoice is issued (for example, if the invoice is issued on [\*\*\*], the first payment installment is due on or before [\*\*\*] and the second payment installment is due on or before [\*\*\*]). The Extended Payment Plan shall be valid only if Customer maintains a Moody’s Credit Rating of a minimum Ba3 Senior Unsecured Rating or higher. In the event the rating falls below the defined level, then the Extended Payment Plan terms for Customer shall not apply and Customer shall instead pay Provider in accordance with **Article 12** (Fees and Payments) of the MSA.

**2.2 Payments.** If any Customer Permitted Entity fails to pay any Undisputed EPP Fees within [\*\*\*] Business Days following notice from Provider or Provider Affiliate that such payments are overdue, then Provider or Provider Affiliate reserves the right for such Customer Permitted Entity to: (1) charge interest at the rate of [\*\*\*]% per [\*\*\*] days calculated from the date the amount was due until the date of payment by such Customer Permitted Entity; (2) terminate the Extended Payment Plan and all outstanding amounts for Undisputed EPP Fees shall become immediately due and payable; and (3) any new invoices for Undisputed EPP Fees shall be payable to Provider or Provider Affiliate in accordance with **Article 12** (Fees and Payments) of the MSA. Notwithstanding the foregoing, in the event of: (i) any petition or proceeding is filed by or against any Customer Permitted Entity under any bankruptcy, insolvency, receivership or similar law; (ii) any Customer Permitted Entity admits in writing its insolvency or inability to pay its debts as they come due; or (iii) any Customer Permitted Entity or its directors or stockholders takes any action in connection with its dissolution, liquidation or the winding up of its affairs, including, without limitation, ceases doing business, or sells or disposes of all or substantially all its assets, then, the Extended Payment Plan terms set forth in **Section 2.A.** (Invoicing) of

this **Schedule 17** , shall not apply and such Customer Permitted Entity shall instead pay to Provider or Provider Affiliate the Undisputed EPP Fees in accordance with **Article 12** (Fees and Payments) of the MSA and any outstanding Undisputed EPP Fees will be payable immediately.

- 2.3 Accounting Clause.** Neither Provider, nor any other Provider organization or Affiliate makes any representation whatsoever regarding Customer Permitted Entity's accounting treatment applicable to the Extended Payment Plan. Provider accounts for the Extended Payment Plan receivables as a financing receivable for US reporting purposes.

### **3. DISPUTED EPP FEES AND UNDISPUTED EPP FEES.**

- 3.1 Disputed EPP Fees.** An amount shall be considered disputed if, on or prior to the last Business Day of the month in which the invoice was issued (“**Dispute Period**”), Provider or Provider Affiliate receives a written notice (“**Dispute Notice**”), from an authorized representative of a Customer Permitted Entity containing the following information: (i) the invoice number; (ii) the specific dollar amount of the Fees, that are not disputed (“**Undisputed EPP Fees ( s )**”); (iii) the specific dollar amount of the disputed EPP Fees (“**Disputed EPP Fees(s)**”); and (iv) a description in reasonable detail of the basis of the dispute. Any such Disputed EPP Fees shall be handled in accordance with and subject to **Section 12.3** (Disputed Fees and Right to Offset) and **Schedule 5** (Governance) of the MSA and are not eligible for the Extended Payment Plan.

- 3.2 Undisputed EPP Fees :** All Fees not disputed as specified in **Section 3.A.** (Disputed EPP Fees) of this **Schedule 17** , shall be an Undisputed EPP Fee and such Fees and Services shall be deemed accepted by a Customer Permitted Entity solely for the purposes of the Extended Payment Plan and no other purpose. Such Customer Permitted Entity's obligation to pay the Undisputed EPP Fees in full and in accordance with the Extended Payment Plan shall be absolute and unconditional, notwithstanding any and all rights such Customer Permitted Entity may have to withhold, dispute, recoup or setoff against any Fees due or assert any Claim or counterclaim of any kind (including performance disputes, Claims against Provider or Provider Affiliate or any early termination rights that may be provided to such Customer Permitted Entity in the Agreement or at Law). The Extended Payment Plan terms have been established in order for Provider or Provider Affiliate to finance the Undisputed EPP Fees and, for the avoidance of doubt, neither this absolute and unconditional payment obligation nor any other term or condition of this **Schedule 17** (Extended Payment Plan) will prejudice Customer Permitted Entity's ability to separately exercise any other rights to make any Claim against Provider or Provider Affiliate in accordance with the terms of the Agreement or at Law. For the avoidance of doubt, nothing in this **Schedule 17** (Extended Payment Plan) shall prohibit a Customer Permitted Entity from requiring Provider or Provider Affiliate to apply credits issued in accordance with this Agreement on subsequent invoices resulting from Claims related to Services previously invoiced, paid for or deemed accepted by a Customer Permitted Entity.

### **4. REFUNDABLE ITEMS AND SET-OFFS**

**4.1 Refunds and Credits.** Notwithstanding any other provision in the Agreement, including **Section 7.4** (Performance Credits), **Section 7.5** (Deliverable Credits), and **Section 12.3** (Disputed Fees and Right to Offset) of the MSA, set-offs, refunds, credits (including Performance or Deliverable Credits) or other rebates may not be applied to any payments due for Undisputed EPP Fees.

## 5. CONFIDENTIALITY

**5.1 Confidentiality Obligations .** Nothing in the Agreement, including **Article 17** (Confidentiality and Customer Data) of the MSA, shall prohibit Provider or Provider Affiliate from disclosing this **Schedule 17** (Extended Payment Plan), or descriptions thereof, or any Attachment and documents related thereto to any assignee of Undisputed EPP Payments that agrees with Provider or Provider Affiliate to confidentiality terms that are no less restrictive than the confidentiality terms set forth in the Agreement.

## 6. TERMINATION

**6.1 Termination.** Notwithstanding any other termination rights set forth in the Agreement, including the termination rights provided in **Article 19** (Termination) of the MSA, (i) in the event of any termination of the Agreement for any reason or the termination of any SOW other than termination as set forth in **Section 19.1** (Termination for Convenience), all outstanding Undisputed EPP Fees are due and payable on the earlier of the Extended Payment Plan due date or the termination date of the Agreement or terminated SOW or (ii) in the event of any termination of a Local Services Agreement, all outstanding Undisputed EPP Fees for the terminated Local Services Agreement are due and payable on the earlier of the Extended Payment Plan due date or the termination date of the Local Services Agreement or (iii) in any event of termination of an SOW as set forth in **Article 19.1** (Termination for Convenience), all outstanding Undisputed EPP Fees for the terminated SOW are due and payable on the Extended Payment Plan due date. Upon notification of a termination pursuant to (i) or (ii) above or notice of termination by Provider pursuant to **Section 19.7** , Provider or Provider Affiliate will no longer offer the Extended Payment Plan terms for future Undisputed EPP Fees. Any new invoices for Undisputed EPP Fees shall instead be payable to Provider or Provider Affiliate in accordance with **Section 12** (Fees and Payments) of the MSA . Termination Fees, if any, are not eligible for the Extended Payment Plan.

## 7. FORCE MAJEURE

**7.1 Force Majeure.** Notwithstanding **Section 10.2** (Force Majeure) of the MSA, a Force Majeure Event does not excuse, limit or otherwise effect a Customer Permitted Entity's obligation to pay Undisputed EPP Fees in accordance with this **Schedule 17** (Extended Payment Plan).

## 8. ASSIGNMENT

**8.1 Assignment .** Notwithstanding the assignment provisions specified in **Section 25.1** (Assignment) of the MSA, Provider or Provider Affiliate shall be permitted to assign, and intends to assign, all or a portion of its rights to receive the Undisputed EPP Fees hereunder to IBM Credit LLC or to a third party with such Customer Permitted Entities prior consent (which consent shall not be unreasonably withheld or denied). No such assignee shall be deemed a third-party beneficiary of the Agreement, except to the extent necessary to collect



payment of the Undisputed EPP Fees. After any such assignment, Customer Permitted Entities shall deal exclusively with Provider or Provider Affiliate except for matters related to the Extended Payment Plan. To the extent that Provider or Provider Affiliate assigns its right to receive such payment as provided above, such Customer Permitted Entity agrees not to assert against any assignee any set-offs, recoupment, counterclaims or defenses such Customer Permitted Entity may have against Provider or Provider Affiliate under the Agreement with respect to such Fees. If an assignment or transfer by Customer occurs pursuant to Section 25.1(ii) of the Agreement, assignment of Customer's rights or obligations under this Extended Payment Plan shall require prior written approval of Provider except in the event that, (a) the assignee or transferee has a Moody's Senior Unsecured rating equal to Ba3 or higher, and (b) the assignee or transferee is not in default under any agreement with Provider after giving effect to such assignment or transfer. Upon Provider's knowledge of such assignment or transfer, Provider will provide Customer prompt written notice if the foregoing conditions are not satisfied and that payments will be due in accordance with the thirty- (30-) day payment terms in **Section 12.1** of the MSA.

## **9. OTHER**

- 9.1 Acquisitions and Divestitures.** Notwithstanding **Section 3.5** (Changes to Customer Group) of the MSA, the Extended Payment Plan terms shall not apply to any Acquired Entity, Divested Entity or New Entity unless approved by Provider or Provider Affiliate in writing.
- 9.2 Survival.** Notwithstanding **Section 25.9** (Survival) of the MSA, all Extended Payment Plan terms survive any termination or expiration of the Agreement or Local Services Agreement until satisfied in full.

**AMENDMENT NO. 1  
TO  
MASTER SERVICES AGREEMENT**

This AMENDMENT NO. 1 (this “ **Amendment** ”), dated January 4, 2019 (“ **Amendment Effective Date** ”), is between **Juniper Networks, Inc.**, a Delaware corporation with a principal place of business at 1133 Innovation Way, Sunnyvale, California 94089 (“ **Customer** ”), and International Business Machines Corporation, a New York corporation with a principal place of business at One New Orchard Road, Armonk, New York 10504 (“ **Provider** ”) (each a “ **Party** ” and collectively the “ **Parties** ”).

WHEREAS, the Parties entered into a Master Services Agreement on December 31, 2018 (the “ **MSA** ”); and

WHEREAS, the Parties desire to amend the MSA as set forth below;

NOW, THEREFORE, the Parties agree as follows:

1. Capitalized Terms. Capitalized terms not otherwise defined in this Amendment shall have the meaning assigned to such term in either **Schedule 1** (Definitions) to the MSA or **Appendix 1** (Technical Definitions) to **Schedule 3** (Cross-Functional Service Terms), as applicable.

2. Amendment. **Section 1.4** (Related to Joint Verification) is hereby added as follows:

**Section 1.4 (Related to Joint Verification)**

With regard to the joint verification process described in **Section 3.19(B)** of the MSA, Provider will provide a written request describing the Verifiable Information with respect to Managed Contracts and Affected Employees that it would like to verify no later than [\*\*\*]. Customer agrees to respond to Provider's request within no more than [\*\*\*] Business Days of receiving such request. In the event Customer is delayed in providing such Verifiable Information to Provider beyond such [\*\*\*] Business Day period, then the Joint Verification Period will be extended by the number of days by which Customer is delayed in providing such Verifiable Information to Provider.

3. Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement remain in full force and effect.

*[Signatures on Following Page.]*  
*[Remainder of Page Intentionally Left Blank.]*

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their respective authorized representatives and made effective as of the Amendment Effective Date.

**Juniper Networks, Inc.**

By: \_\_\_\_\_  
Name: Brian M. Martin  
Title: SVP, General Counsel and Secretary  
Date:

**International Business Machines Corporation**

By: \_\_\_\_\_  
Name: Scott Anderson  
Title: Client Partner Executive  
Date:

## SUBSIDIARIES OF THE COMPANY AS OF DECEMBER 31, 2018\*

NAME	JURISDICTION OF INCORPORATION
Juniper Networks International B.V.	The Netherlands
Juniper Networks (US), Inc.	California, USA
Juniper Networks Systems Cayman Ltd.	Cayman Islands

\* All other subsidiaries would not in the aggregate constitute a “significant subsidiary” as defined in Regulation S-X.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 No. 333-212915) of Juniper Networks, Inc., and

(2) Registration Statements (Form S-8 Nos. 333-221422, 333-218344, 333-216246, 333-213490, 333-211824, 333-211821, 333-204297, 333-183165, 333-151669, 333-176171, and 333-186884) of Juniper Networks, Inc.;

of our reports dated February 22, 2019 , with respect to the consolidated financial statements and schedule of Juniper Networks, Inc., and the effectiveness of internal control over financial reporting of Juniper Networks, Inc., included in this Annual Report (Form 10-K) of Juniper Networks, Inc., for the year ended December 31, 2018.

/s / Ernst & Young LLP

San Jose, California  
February 22, 2019

**Certification of Principal Executive Officer  
Pursuant to  
Exchange Act Rules 13a-14(a) and 15d-14(a),  
As Adopted Pursuant to  
Section 302 of the Sarbanes-Oxley Act of 2002**

I, Rami Rahim, certify that:

1. I have reviewed this Annual Report on Form 10-K of Juniper Networks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

/s/ Rami Rahim  
Rami Rahim  
Chief Executive Officer  
(Principal Executive Officer)

**Certification of Principal Financial Officer  
Pursuant to  
Exchange Act Rules 13a-14(a) and 15d-14(a),  
As Adopted Pursuant to  
Section 302 of the Sarbanes-Oxley Act of 2002**

I, Kenneth B. Miller, certify that:

1. I have reviewed this Annual Report on Form 10-K of Juniper Networks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

/s/ Kenneth B. Miller

Kenneth B. Miller

Executive Vice President, Chief Financial Officer

(Principal Financial Officer)

**Certification of Chief Executive Officer  
Pursuant to 18 U.S.C. Section 1350 As Adopted  
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

I, Rami Rahim, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Juniper Networks, Inc. on Form 10-K for the fiscal year ended December 31, 2018, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Juniper Networks, Inc.

/s/ Rami Rahim  
Rami Rahim  
Chief Executive Officer  
February 22, 2019



**Certification of Chief Financial Officer  
Pursuant to 18 U.S.C. Section 1350 As Adopted  
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

I, Kenneth B. Miller, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Juniper Networks, Inc. on Form 10-K for the fiscal year ended December 31, 2018, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of Juniper Networks, Inc.

/s/ Kenneth B. Miller

Kenneth B. Miller

Executive Vice President, Chief Financial Officer

February 22, 2019