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, 2019

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: 001-36468

ARISTA NETWORKS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-1751121**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

5453 Great America Parkway
Santa Clara, California 95054
(Address of principal executive offices)

(408) 547-5500
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	**ANET**	**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 Exchange 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 filing 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 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 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 Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $15,382,416,460 as of June 28, 2019 (the last business day of the registrant's most recently completed second fiscal quarter) based on the closing price of the registrant's common stock on the New York Stock Exchange on such date. Shares held by persons who may be deemed affiliates have been excluded. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

On February 10, 2020, 76,479,227 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to its 2020 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A within 120 days after the registrant's fiscal year end of December 31, 2019 are incorporated by reference into Part III of this Annual Report on Form 10-K.

ARISTA NETWORKS, INC.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections entitled "Business," "Risk Factors," "Use of Proceeds," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, as Section 21E of the Securities Exchange Act of 1934, as amended, which statements involve substantial risks and uncertainties. The words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "predict," "expect" and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements.

These forward-looking statements include, but are not limited to, statements concerning the following:

- our ability to maintain an adequate rate of revenue growth and our future financial performance, including our expectations regarding our revenue, cost of revenue, gross profit or gross margin and operating expenses;
- our belief that the cloud networking market is rapidly evolving and has a significant potential opportunity for growth;
- our ability to expand our leadership position in the network switch industry, including the areas of mobility, virtualization, network monitoring, cloud computing and cloud networks, and to develop new products and expand our business into new markets such as the campus and enterprise data center markets;
- our ability to satisfy the requirements for cloud networking solutions and to successfully anticipate technological shifts and market needs, innovate new products and bring them to market in a timely manner including any increased adoption of new technology solutions or consumption models such as commoditized hardware technology or open source networking solutions;
- our ability to integrate and realize the benefits of our recent and future acquisitions;
- our business plan and our ability to effectively manage our growth, including the reporting requirements and compliance obligations of a public company;
- costs associated with defending intellectual property infringement and other claims and the potential outcomes of such disputes, such as those claims discussed in "Legal Proceedings";
- our ability to retain and increase sales to existing customers and attract new end customers, including large end customers;
- the budgeting cycles and purchasing practices of end customers, including large end customers who may receive lower pricing terms due to volume discounts or who may elect to re-assign allocations to multiple vendors based upon specific network roles or projects;
- the growth and buying patterns of our large end customers in which large bulk purchases may or may not occur in certain quarters;
- our inability to fulfill our end customers' orders due to supply chain delays, access to key commodities or technologies or events that impact our manufacturers or their suppliers such as the recent U.S. trade wars with China or the impact of public health epidemics like the coronavirus currently affecting China;
- the deferral or cancellation of orders by end customers, warranty returns or delays in acceptance of our products;
- our ability to further penetrate our existing customer base and sell more complex and higher-performance configurations of our products;
- our ability to displace existing products in established markets;
- our belief that increasing channel leverage will extend and improve our engagement with a broad set of customers;
- our ability to timely and effectively scale and adapt our existing technology;
- the benefits realized by our customers in their use of our products and services including lower total cost of ownership;

- our ability to expand our business domestically and internationally;
- the effects of increased competition in our market and our ability to compete effectively;
- the effects of seasonal and cyclical trends on our results of operations;
- our expectations concerning relationships with third parties;
- the attraction and retention of qualified employees and key personnel;
- our ability to maintain, protect and enhance our brand and intellectual property;
- economic and industry trends;
- estimates and estimate methodologies used in preparing our financial statements;
- future trading prices of our common stock;
- our belief that we have adequately reserved for uncertain tax positions;
- global economic and political conditions that introduce instability into the U.S. economy;
- the impact of global and domestic tax reform, including the Tax Cuts and Jobs Act of 2017;
- the impact of tariffs imposed by the U.S. on goods from other countries and tariffs imposed by other countries on U.S. goods, including the tariffs implemented by the U.S. government on various imports from China;
- our belief that our existing cash and cash equivalents together with cash flow from operations will be sufficient to meet our working capital requirements and our growth strategies for the foreseeable future; and
- our ability to identify, complete and realize the benefits of future acquisitions of or investments in complementary companies, products, services or technologies;

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in the section titled "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. You should not rely upon forward-looking statements as predictions of future events.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

PART I

Item 1. Business

Arista Networks pioneered software-driven, cognitive cloud networking for large-scale datacenter and campus environments. Our cloud networking solutions consist of our Extensible Operating System ("EOS"), a set of network applications and our Ethernet switching and routing platforms. Our cloud networking solutions deliver industry-leading performance, scalability, availability, programmability, automation and visibility. At the core of our cloud networking platform is EOS, which was purpose-built to be fully programmable, highly modular and reliable. The programmability of EOS has allowed us to create a set of software applications that address the requirements of cloud networking, including workflow automation, network visibility and analytics, and has also allowed us to rapidly integrate with a wide range of third-party applications for virtualization, management, automation, orchestration and network services. Since we began shipping our products, we have grown rapidly, and, according to market research, we have achieved the second largest market share in data center Ethernet switch ports. We have been profitable and cash flow positive for each year since 2010.

EOS supports leading cloud and virtualization solutions, including VMware NSX, Microsoft System Center, OpenStack and other cloud management frameworks. We have worked with industry leaders to define new open protocols for the virtualized data center. We co-authored the VXLAN protocol specification with VMware and were the first to demonstrate VXLAN integration and have now expanded VXLAN routing and integration.

We use standard Linux as our underlying operating system, providing customers with access to all Linux operating system facilities. This allows customers to extend our EOS software with off-the-shelf Linux applications and a growing number of open source management tools.

EOS has a highly modular architecture, which allows us to prevent network outages in deployments of our cloud networking solutions. This architecture also allows us to rapidly develop new features and protocols without compromising the quality of the existing code base. Because all of our platform products are powered by the same binary image of EOS, we are able to deliver these new innovations to our entire installed base with minimal disruption.

In 2015, we introduced CloudVision, a network-wide approach for workload orchestration and workflow automation delivering a turnkey solution for cloud networking. We believe CloudVision’s abstraction of the physical network to this broader, network-wide perspective allows for a more efficient approach for several operational use-cases related to automation, visibility, management, security and 3rd party controller integration.

In 2018, we announced a new network architecture designed to redefine the campus network into a cognitive single-tier Spline™ driven by a single image operating system that extends across the campus and the data center. Leveraging EOS® and CloudVision®, our Cognitive Cloud Networking approach brings operational consistency and modern cloud principles to the enterprise campus in the face of a proliferation of Internet of Things ("IOT") related users, behaviors and complexities. As part of the enterprise campus solution, we acquired Mojo Networks, Inc. (“Mojo”), inventor of Cognitive WiFi™ and a leader in cloud-managed wireless networking. We also acquired Metamako Holding PTY LTD. (“Metamako”), a leader in low-latency, FPGA-enabled network solutions.

In 2019, we completed the introduction of ten new 400G platforms. In the Leaf/Spine High Network Radix category, we offer two new fixed 32 port 400G switches, and a 128 port 100G/32 port 400G modular switch. For the Universal Leaf and Spine category of switching, we introduced our R3 series 100G and 400G products supporting up to 2.5M routes on our 7280R3 series fixed and 7500R3 series modular platforms. We also introduced a new modular family called the 7800R3, a high density 100G and 400G platform supporting up to 460 Tbps of system throughput. In addition, we launched the 720XP Series of fixed Power over Ethernet (PoE) leaf switches with mGig and 60W PoE, enabling us to offer a complete end to end solution for cognitive campus ethernet, as well as the introduction of our new WiFi-6 wireless APs.

We sell our products through both our direct sales force and our channel partners. Our end customers span a range of industries and include large internet companies, service providers, financial services organizations, government agencies, media and entertainment companies and others. Our customers include six of the largest cloud services providers based on annual revenue.

Industry Background

Cloud computing is fundamentally changing the way IT infrastructure is built and how applications are delivered. In cloud computing, applications are distributed across thousands of servers. These servers are connected with high-speed network switches that, together, form a pool of resources that allows applications to be rapidly deployed and cost-effectively updated. Cloud computing enables ubiquitous and on-demand network access to these applications from internet-connected devices including personal computers, tablets and smartphones.

Nearly all consumer applications today are delivered as cloud services. Enterprise applications are rapidly moving to the cloud as well, since cloud services are easier and more cost effective to deploy, scale and operate than traditional applications. Internet leaders like Amazon, Facebook, Google, and Microsoft pioneered the development of large-scale cloud data centers in order to meet the growing demands of their users, including business customers. Enterprises and service providers around the world are adopting cloud computing technologies in order to achieve similar performance improvements and cost reductions.

The aggregate network bandwidth in the cloud can be orders of magnitude higher than typical legacy data center networks. Therefore, the networks in such cloud environments must be architected and built in a new way. We refer to these next-generation data center networks as cloud networks. Cloud networks must deliver high capacity, high availability and predictable performance and must be programmable to allow integration with third-party applications for network, management, automation, orchestration and network services.

Limitations of Traditional Data Center Networks

In our view, cloud networks and legacy networks are fundamentally different. In a traditional data center, specific applications are installed on a small number of servers, and most network traffic is server-to-client, or “north-south” traffic, which results in perhaps a few terabits/second of aggregate network bandwidth. In the cloud, most network traffic is server-to-server, or “east-west” traffic. The aggregate network bandwidth in the cloud can exceed 1 Petabit/second, orders of magnitude higher than that of typical legacy data center networks.

The much larger scale of cloud networks requires much higher network availability since network outages in the cloud are very expensive in terms of customer impact. Traditional network switches have evolved, and the features and capabilities of their operating system have expanded over many years without addressing the structural deficiencies of their underlying software architectures, making it difficult to achieve high network switch reliability.

Some networking vendors have built products that use proprietary protocols to address the scaling needs of next-generation data centers. However, proprietary protocols are generally not acceptable to internet companies or cloud service providers because they create vendor lock-in.

Legacy networks are not programmable and, as a result, are extremely difficult to integrate with third-party applications for network management, automation, orchestration and network services. This lack of integration forces customers to continue to rely on time consuming, error-prone manual processes that may be cost-prohibitive.

Limitations of Traditional Enterprise Campus Networks

Traditional enterprise campus networks suffer from complex bottlenecks brought on by the myriad of platforms, operating systems, proprietary features and network management tools. Coupled with the explosive growth of IoT and endpoints as well as the requirement for workloads, users and devices to be connected anywhere, the operational costs of managing these complexities become prohibitive.

Our Cloud Networking Solutions

We are a leading supplier of cloud networking solutions that use software innovations to address the needs of large-scale internet companies, cloud service providers and next-generation enterprise data centers and campuses. Our cloud networking platform was purpose-built to address the functional and performance requirements for cloud networks. We deliver our solutions via our industry-leading 1/2.5/5/10/25/40/50/100/400 Gigabit Ethernet switches and routers optimized for next-generation data center networks.

Our cloud networking solutions consist of EOS, a set of networking applications and our Gigabit Ethernet platforms. At the core of our cloud networking platform is EOS, which was architected to be fully programmable and highly modular.

The programmability of EOS has allowed us to create a set of software applications and application programming interfaces ("APIs"), that address the requirements of cloud networking, including workflow automation, network visibility and analytics, and has further allowed us to integrate rapidly with a wide range of third-party applications for virtualization, management, automation, orchestration and network services.

The key benefits of our cloud networking solutions are as follows:

Capacity, Performance and Scalability

Our cloud networking platform enables data center networks to scale to hundreds of thousands of physical servers and millions of virtual machines with the least number of switching tiers. We achieve this by leveraging standard protocols to meet the scale requirements of cloud computing. We have used active-active Layer 2 and Layer 3 network topologies to enable customers to build extremely large and resilient networks.

High Availability

Our highly modular EOS software architecture was designed to be fault-isolating and self-healing in order to deliver higher stability compared to legacy network operating systems. In addition, our customers can non-disruptively upgrade our switches running in the network using our Smart System Upgrade, or SSU, application.

Open and Programmable

Our EOS software was purpose-built to offer programmable interfaces throughout all levels of our software. This has allowed us to integrate our cloud networking platform with a wide range of leading third-party applications. For example, we support VMware NSX, OpenConfig/YANG and Microsoft System Center for orchestration and fast provisioning, enabling true workload mobility and automatic provisioning of physical switches. We enable customers, through APIs, to write their own scripts to customize and optimize their networks.

Workflow Automation

Our EOS software enables enterprises to provision networking resources in minutes with no manual intervention through our Zero Touch Provisioning. We also natively support Ansible, CFEngine, Chef, Puppet, virtual network orchestration applications and third-party management tools. CloudVision, a network-wide approach for workload orchestration and workflow automation delivers a turnkey solution for cloud networking. CloudVision extends the same EOS architectural approach across the network for state, topology, monitoring and visibility. This enables enterprises to move to cloud-class automation without needing significant internal development. Finally, EOS embraces the DevOps model, which is a software development method that combines development and operations, to provision and monitor servers, storage and network resources in a unified fashion.

Network Visibility

Our EOS software provides a set of tools and applications that proactively monitor, detect and notify network managers when network issues arise, delivering real-time data to third-party management applications including Corvil, ExtraHop, Riverbed and Splunk to provide detailed application visibility. Our telemetry applications include VM Tracer, which provides visibility down to the virtual machine level, Path Tracer, which detects errors in provisioned network paths, MapReduce Tracer, which monitors and optimizes the performance of Hadoop workloads, Flow Tracker which can visualize all connected endpoints including iPhones, iPads and IOT devices, and Health Tracer, which monitors infrastructure resiliency. Our network visibility applications provide real-time insight into the status of the network. They include LANZ, which monitors latency, and DANZ 2017, a set of features previously only available in add-on network visibility devices, which provides advanced traffic monitoring with flow analysis and timestamps, plus the ability to perform tap aggregation for reporting and analysis.

Security

Macro-Segmentation Services (MSS™) is one of the services enabled via CloudVision. Since CloudVision maintains a network-wide database of all state within the network, as well as direct integration with hypervisor resources like VMware vSphere and NSX. It is aware of every workload that is within the network and it learns in real time about new devices or workloads that are added or removed from the network, or moved across ports or servers. Macro-segmentation extends the concept of fine-grained inter-hypervisor security to cloud networks by enabling dynamic security and services for physical to virtual workloads. Macro-segmentation security is a complement to fine-grained security delivered via micro-segmentation that is already implemented in the virtual switch of the physical host on which a VM is running.

Lower Total Cost of Ownership

Our cloud networking platform offers architectural and system advantages that provide our customers with cost-effective and highly available cloud networking solutions. Our programmable, scalable leaf-spine architectures, combined with industry-leading applications, significantly reduce networking costs when compared to legacy network designs, enabling faster time to service and improved availability. Our automation tools reduce the operational costs of provisioning, managing and monitoring a data center network and speed up service delivery. Our visibility tools provide high levels of visibility into complex network environments without the need for additional data collection equipment. As a result, fewer network engineers are needed to operate large networks.

Enterprise Campus Networks

Arista CloudVision, built on the Cognitive Management Plane (CMP) engine, is a platform for turnkey orchestration, provisioning and telemetry. Born initially in the data center era, CloudVision now extends the same common operational model to the campus providing unified wired and wireless management as well as on-premise and cloud hosted data center management.

Today’s wired and wireless campus networks must cope with ever-increasing endpoint devices necessitating the understanding of endpoint behavior. CloudVision’s latest feature Device Analyzer provides inventory and deep flow analysis of all connected devices. Campus administrators can access device type, connectivity method, location and communication patterns. This visibility enables an administrator to identify unauthorized traffic and compromised endpoints. Since CloudVision spans the data center and the campus, customers can leverage a single platform for end-to-end troubleshooting.

Our Market Opportunity

We compete primarily in the data center switching market for 10 Gigabit Ethernet and above, excluding blade switches. We more recently began to compete in the enterprise campus market for 1 Gigabit Ethernet switching and above and in the cloud-managed wireless networking market.

We believe that cloud computing represents a fundamental shift from traditional legacy network architectures. As organizations of all sizes have moved workloads to the cloud, spending on cloud and next-generation data centers has increased rapidly, while traditional legacy IT spending has grown more slowly.

Our Customers

As of December 31, 2019, we had delivered our cloud networking solutions to over 6,000 end customers worldwide in approximately 94 countries. Our end customers span a range of industries and include large internet companies, service providers, financial services organizations, government agencies, media and entertainment companies and others. For the year ended December 31, 2019, purchases by Microsoft and Facebook each accounted for more than 10% of our total revenue. In addition, for each of the years ended December 31, 2019, 2018, and 2017, Microsoft accounted for more than 10% of our total revenue. Purchases by both of these customers are primarily fulfilled through our channel partners.

Our Competitive Strengths

We believe the following strengths will allow us to maintain and extend our technology leadership position in cloud networking and next-generation data center Ethernet products:

- ***Purpose-Built Cloud Networking Platform.*** We have developed a highly scalable cloud networking platform that uses software to address the needs of large-scale internet companies, cloud service providers, financial services organizations, government agencies and media and entertainment companies, including virtualization, big data and low-latency applications. As a result, our cloud networking platform does not have the inherent limitations of legacy network architectures.

- ***Broad and Differentiated Portfolio.*** Using multiple silicon architectures, we deliver switches and routers with industry-leading capacity, low latency, port density and power efficiency and have innovated in areas such as deep packet buffers, embedded optics and reversible cooling. Our broad portfolio has allowed us to offer customers products that best match their specific requirements.

- ***Single Binary Image Software.*** The single binary image of EOS software allows us to maintain feature consistency across our entire product portfolio and enables us to introduce new software innovations into the market that become available to our entire installed base without a "forklift upgrade" (i.e., a broad upgrade of the data center infrastructure).

- ***Rapid Development of New Features and Applications.*** Our highly modular EOS software has allowed us to rapidly deliver new features and applications while preserving the structural integrity and quality of our network operating system. We believe our ability to deliver new features and capabilities more quickly than legacy switch/router operators, provides us with a strategic advantage given that the requirements in cloud and next-generation data center networking continue to evolve rapidly.

- ***Deep Understanding of Customer Requirements.*** We have developed close working relationships with many of our largest customers that provide us with insights about their needs and future requirements. This has allowed us to develop and deliver products to market that meet customer demands and expectations as well as to rapidly grow sales to existing customers.

- ***Strong Management and Engineering Team with Significant Data Center Networking Expertise.*** Our management and engineering team consists of networking veterans with extensive data center networking expertise. Our President and Chief Executive Officer, Jayshree Ullal, with 30+ years of networking expertise from silicon to systems companies. Andy Bechtolsheim, our Founder and Chief Development Officer, was previously a founder and chief system architect at Sun Microsystems. Kenneth Duda, our Founder and Chief Technology Officer, led the software development effort of EOS.

- ***Significant Technology Lead.*** We believe that our networking technology represents a fundamental advance in networking software. Our EOS software is state-driven and the result of more than 1,000 man-years of research and development investment over a ten-year period with 10+ million lines of code as a key cloud networking software stack.

Our Products and Technology

We offer one of the broadest product lines of datacenter and campus 1/2.5/5/10/25/40/50/100/400 Gigabit Ethernet switches and routers in the industry, comprising our 720XP, 7010/7020R Series, 7050X Series, 7060X Series, 7130 Series, 7160 Series, 7150 Series, 7170 Series, 7250X Series, 7280R Series Universal Leaf products, 7300X Series Spline products, and our 7500R/7800R Series Universal Spine products.

We deliver routing and switching platforms with industry-leading capacity, low latency, port density and power efficiency. We have also innovated in areas such as deep packet buffers, embedded optics and reversible cooling. An overview of our switching/routing portfolio is shown in the figure below.

Our Extensible Operating System

The core of our cloud networking platform is our EOS which runs on top of standard Linux and offers programmability at all layers of the stack. All of our Ethernet platforms run our EOS software.

EOS is based on a new and innovative architecture that is highly modular and consists of more than 100 separate processes that we call agents, each one handling specific protocol processing, device driver or system management functions. Each agent runs in user space as a separate Linux process and is completely protected and isolated from all other agents.

We are constantly investing in our core infrastructure to provide the capabilities required for building modern cloud networks and enhancing scalability. New requirements for use in cloud and service provider networks and hybrid cloud deployments in enterprises require on-going upgrades and extensions to our state oriented architecture.

EOS Attributes

The modular and programmable architecture of EOS enables us to offer a set of attributes, capabilities and features that are essential for cloud networking and next-generation data centers.

High Availability

EOS is self-healing in the sense that individual processes can be restarted without impacting application traffic. This architectural design principle supports self-healing resiliency in our software, easier software maintenance and module independence, higher software quality overall, and faster time-to-market for new features that customers require.

Programmable at All Layers

EOS is programmable at all layers from the Linux kernel to switch configuration, provisioning, automation and detailed monitoring of the network. Public cloud providers have leveraged tools such as the EOS Software Development Kit ("SDK") and eAPI to implement fully customized infrastructure automation solutions.

Workflow Visibility

Through EOS, we have developed a wide range of applications available to our customers for purchase as additional licenses that enable enhanced network monitoring and visibility without requiring additional external monitoring devices. This includes (i) DataANalyZer (DANZ), which provides access to raw network data for analysis by security, troubleshooting and performance management tools, (ii) Latency/loss ANalyZer (LANZ), which provides access to internal network performance loads and packet loss and latency occurring at the microsecond level, (iii) Network Telemetry, which provides network state information including correlations with dynamic state of the systems operating on the network such as Hypervisors, distributed job controls and (iv) Network Tracers, which provide active integration and diagnostics for various workload conditions dependent upon network performance.

Network Automation

EOS supports Puppet, Chef and Ansible, which enables automatic network configuration in the same manner as servers and storage. In addition, EOS provides tools that greatly reduce network operational costs. Another major component of network automation is Cloud Vision.

CloudVision

CloudVision's abstraction of the physical network to a broader, network-wide perspective allows for a more efficient approach for several operational use-cases, including the following highlights:

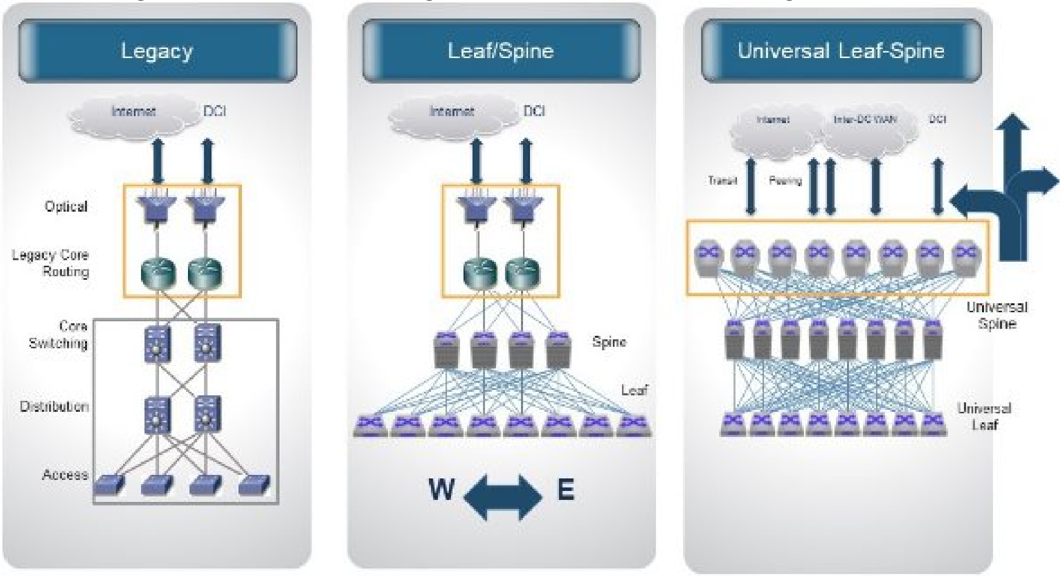
- Centralized representation of distributed network state, allowing for a single point of integration and network-wide visibility and analytics;
- Controller agnostic support for physical and virtual workload orchestration through open APIs such as OVSDB, JSON and Openstack plugins;
- Turn-key automation for zero touch provisioning, configuration management and network-wide upgrades and rollback;
- Compliance dashboard for security, audit and patch management;
- Real-time streaming for telemetry and network analytics, a modern approach to replace legacy polling per device;
- Provides visibility and troubleshooting for underlay and overlay networks; and
- Enables macro-segmentation services which provides a dynamic and scalable network service to logically insert security devices into the path of traffic, regardless of whether the security device or workload is physical or virtual and with complete flexibility on placement of security devices and workloads.

Leaf-Spine Network Designs

Our customers typically deploy leaf-spine network topologies consisting of leaf switches or top-of-rack switches, located in the server rack connected with uplinks to multiple load-sharing spine switches and routers that provide the backbone. Our leaf-spine network designs scale up to more than 300,000 physical servers and millions of virtual machines using Equal Cost Multiple Path, or ECMP, to load balance Layer 3 network traffic across multiple spine switches and routers. With Multi-Chassis Link Aggregation, or MLAG, we can build an active-active Layer 2 network that can connect more than 25,000 physical servers. Our leaf-spine network designs have been widely deployed and provide predictable network bandwidth and latency. A key advantage of predictable network performance is that it eliminates the need to optimize the network for specific applications, which means a single network design works equally well for all applications.

Enterprise resources commonly span multiple data centers or Performance Optimized Datacenters ("PODs") within a data center, including the public cloud. The drive to deliver resources quickly, affordably, and reliably also drives the need for a flexible, cost-effective, scale-out design at the data center core, which we refer to as the "spine of spines" or Universal Spine. The Universal Spine is non-blocking, supports large scale ECMP, IP routing and routing convergence. The Universal Spine enables architects to build the network around the spine and collapse legacy networking layers into the Universal Spine.

Examples of our leaf-spine and universal leaf-spine architectures are illustrated below.



Arista Multi Cloud Networking Platform

CloudEOS™ is Arista's multi cloud and cloud native networking solution enabling a highly secure and reliable networking experience with consistent segmentation, telemetry, provisioning and troubleshooting for the entire enterprise. It can be deployed across the enterprise edge, WAN, campus, data center, on-premises Kubernetes clusters, and multiple public and private clouds. CloudEOS provides multi cloud connectivity across the entire enterprise cloud environment with high-performance virtual and container-based instances of EOS® software that simplify network operations and integrate with declarative cloud provisioning toolchains like Terraform, Ansible, and other popular CloudOps and DevOps tools.

In addition, CloudEOS enables the seamless delivery of a fully autonomic software-defined infrastructure by combining the power of network automation, state streaming telemetry, and common management plane across clouds using Arista CloudVision® and Terraform. With CloudEOS and CloudVision customers can integrate their cloud network deployments with the elasticity and automation of the public cloud, private cloud and cloud native platforms.

CloudEOS is designed for consumption on Amazon AWS, Microsoft Azure, and Google public clouds via their marketplace and service catalogs, and it is also available as a cloud native instance for deployment in Kubernetes clusters. With CloudEOS, customers can now deploy networks across multiple public cloud providers and on-premises environments in minutes, without ever touching the network CLI.

Cloud Principles Migrate Enterprise from PINs to PICs

With the Arista CloudEOS, enterprise customers can now deploy a reliable and secure multicloud experience with a common Universal Cloud Network approach across all of the places-in-the-cloud ("PICs") as opposed to siloed Places-In-the-Network ("PINs") of the legacy enterprise. This enables IT organizations to harness dispersed cloud resources anywhere for better availability of services and applications across any cloud, any workload and any location.

Cognitive WiFi

With the acquisition of Mojo, we now integrate the wireless edge via the CloudVision platform. The Cognitive WiFi architecture is tailored to enable an Arista access point portfolio in a controller-less wireless network. These access point (“AP”) solutions are available in disaggregated options harnessing the power of cloud, machine learning and cognitive computing to deliver great experiences to WiFi users. Our Cognitive WiFi delivers massive scalability, and a linear pay-as-you-go pricing model, providing a predictable total cost of ownership path. CloudVision WiFi is based on a similar CMP model for cognitive analytics unifying the operational experience across wired and wireless. CloudVision WiFi enhances real-time insight into the experience of WiFi clients to connect and utilize the network. Client Journey is a set of dashboards that help operators diagnose client connectivity, track availability of network services and identify the root cause of WiFi issues with live and historical telemetry data for the proactive assessment of client to application performance.

Arista Cognitive Campus includes a suite of WiFi Tracer tools for wireless security, reachability and network health diagnostics. The Integrated Wireless Intrusion Protection System (“WIPS”) protects networks against rogue APs, honeypots and implements device classification to determine authorized client devices connecting to unauthorized APs. Additional WIPS scanning is accomplished via a dedicated third radio which can also perform various network performance and health diagnostics. The AP can simulate a client device-association and authentication instrumenting identity and access (AAA and DHCP/DNS) latencies, connectivity to the upstream network and voice calls to calculate MOS score and network throughput. These automated tests can be pre-scheduled without administrator intervention ensuring business ready WiFi. CloudVision WiFi applications fuses Arista access points with cloud networking spines and splines for a seamless topology view.

Cognitive Cloud Networking for the Campus

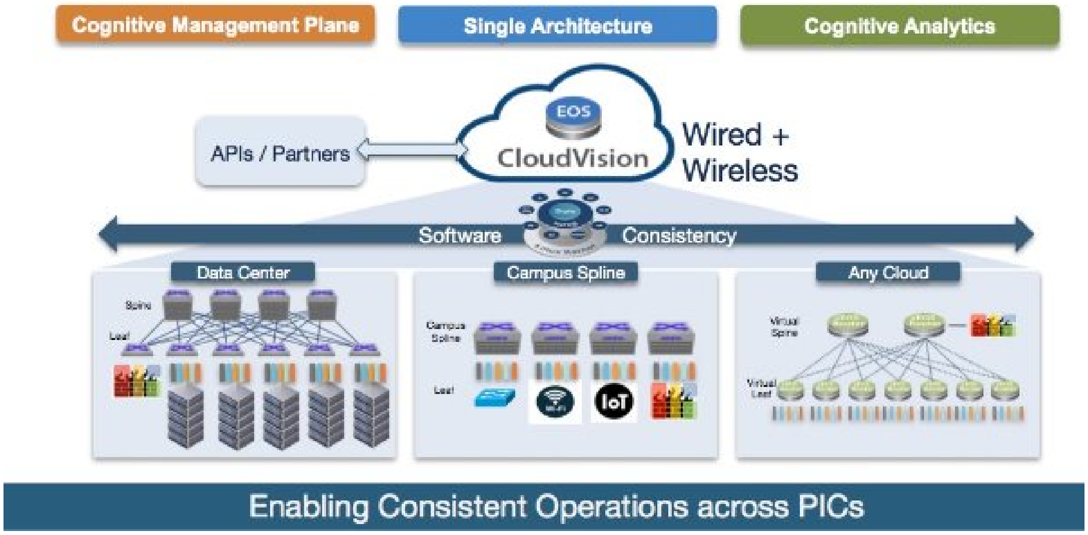
Our Cognitive Cloud Networking for the Campus is based on three principles:

Universal Cloud Network - Offered as an alternative to brittle, proprietary solutions from legacy vendors, our Universal Cloud Network is an open, standards-based design focusing on software-driven control principles. Our collapsed Spline™ approach consolidates traditional campus core and aggregation layers into a simple single tier with high availability.

Cognitive Management Plane - There is a dire void in management plane consistency and a need for data-driven analytics in the campus, as in the data center. We believe that a common model can be applied across both, saving customers operational costs. The CMP, based on Arista CloudVision, is a data-driven repository for the automated actions across network analytics.

Securing The Campus - Securing the Campus spline requires a holistic approach to network segmentation, device compliance and auditing, as well as service integration with our security partners. We deliver these capabilities through EOS and CloudVision.

Examples of our Cognitive Cloud Networking architectures are illustrated below.



Customer Support and Services

We have designed our customer support offerings to provide our customers with high levels of support. Our global team of support engineers engages directly with client IT teams and is available at all times over e-mail, by phone or through our website.

We offer multiple service options that allow our customers to select the product replacement service level that best meets their needs. We stock spare parts in over 125 locations around the world through our third-party logistics suppliers. All of our service options include unlimited access to bug-fixes, new feature-releases, online case management and our community forums.

Sales and Marketing

We market and sell our products through our direct sales force and in partnership with our channel partners, including distributors, value-added resellers, systems integrators and OEM partners. We also sell in conjunction with various technology partners. To facilitate channel coordination and increase productivity, we have created a partner program, the Arista Partner Program, to engage partners who provide value-added services and extend our reach into the marketplace. Authorized training partners perform technical training of our channel partners and end customers. Our partners commonly receive an order from an end customer prior to placing an order with us, and we confirm the identification of the end customer prior to accepting such orders. Our partners generally do not stock inventory received from us.

Our sales organization is supported by systems engineers with deep technical expertise and responsibility for pre-sales technical support and solutions engineering for our end customers, systems integrators, original equipment manufacturers, or OEMs, and channel partners. A pool of shared channel sales and marketing representatives also supports these teams. Each sales team is responsible for a geographical territory, has responsibility for a number of major direct end-customer accounts or has assigned accounts in a specific vertical market. We have field sales teams operating in approximately 94 countries.

Our marketing activities consist primarily of technology conferences, web marketing, trade shows, product demonstrations, seminars and events, public relations, analyst relations, demand generation and direct marketing to build our brand, increase end-customer awareness, communicate our product advantages and generate qualified leads for our field sales force and channel partners.

Research and Development

We believe our future success depends on our ability to develop new products and features that address the needs of our end customers. Our in-house engineering personnel are responsible for the development, quality, documentation, support and release of our products. We plan to continue to invest in resources to conduct our research and development efforts.

Manufacturing

We subcontract the manufacturing of all of our products to various contract manufacturers. Our primary manufacturing partners are Jabil Circuit and Sanmina Corporation. This approach allows us to reduce our costs, manufacturing overhead and inventory position and allows us to adjust more quickly to changing end-customer demand. We require all of our manufacturing locations to be ISO-9001 certified. We have four direct fulfillment facilities worldwide to hold finished good inventory, perform product transformations, and install our EOS software to ship to customers and partners.

Our contract manufacturing partners procure the majority of the components needed to build our products and assemble our products according to our design specifications. This allows us to leverage the purchasing power of our contract manufacturing partners. We retain complete control over the bill of material, test procedures and quality assurance programs. Our personnel work closely with our partners and review on an ongoing basis forecasts, inventory levels, processes, capacity, yields and overall quality. Our contract manufacturing partners procure components and assemble our products based on our demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analyses from our sales and product management functions as adjusted for overall market conditions.

Our products rely on key components, including merchant silicon, integrated circuit components and power supplies purchased from a limited number of suppliers, including certain sole source providers. We also expect to see increased consolidation among our component suppliers. Generally, neither our contract manufacturers nor we have a written agreement with these component providers to guarantee the supply of the key components used in our products nor do we have exclusive rights to such key components, and our suppliers could suffer shortages, delay shipments, prioritize shipments to other vendors, increase prices or cease manufacturing such products or selling them to us at any time. Supply of components may also be adversely affected by geopolitical conditions such as international trade wars like the U.S. trade war with China and the impact of public health epidemics like the coronavirus currently affecting China.

Our product development efforts also depend upon continued collaboration with our key suppliers, including our merchant silicon vendors such as Broadcom and Intel. As we develop our product roadmap and continue to expand our relationships with these and other merchant silicon vendors, it is critical that we work in tandem with our key merchant silicon vendors to ensure that their silicon includes improved features and that our products take advantage of such improved features. This enables us to focus our research and development resources on software core competencies and to leverage the investments made by merchant silicon vendors to achieve cost-effective solutions.

Once the completed products are manufactured and tested, our contract manufacturing partners ship them to various theatre direct fulfillment facilities in the United States, the Netherlands and Singapore for final configuration, quality control inspection and shipment to our distribution partners and end customers. After the products are shipped to our end customers, our products are installed by the end customers or by third-party service providers such as system integrators or value added resellers on their behalf.

Backlog

We do not have any long-term purchase commitments from customers. Customers generally order products on an as-needed basis with short lead and delivery times on a per-purchase-order basis. We maintain sufficient finished goods inventory to ensure that products can generally be shipped shortly after receipt of an order. A significant portion of our customer shipments in any fiscal year relate to orders received and shipped in that fiscal year. Our customers utilize purchase orders containing non-binding purchase commitments and we allow customers to cancel, change or reschedule orders without penalty at any time prior to shipment, and as a result we do not believe backlog is firm. Due to the foregoing factors, backlog is not a meaningful indicator in any given period of our ability to achieve any particular level of overall revenue or financial performance.

Competition

The markets in which we compete are highly competitive and characterized by rapidly changing technology, changing end-customer needs, evolving industry standards, frequent introductions of new products and services and industry consolidation. We expect competition to intensify in the future as the market for cloud networking expands and existing competitors and new market entrants introduce new products or enhance existing products.

The data center and campus networking markets have been historically dominated by Cisco, with competition also coming from other large network equipment and system vendors, including Extreme Networks, Dell/EMC, Hewlett Packard Enterprise, Juniper Networks and Mist Systems. Most of our competitors and some strategic alliance partners have made acquisitions and/or have entered into or extended partnerships or other strategic relationships to offer more comprehensive product lines, including cloud networking solutions. For example, Broadcom acquired Brocade Communications Systems, Extreme Networks purchased certain data center networking assets from Broadcom/Brocade and Avaya, Dell acquired EMC, and Hewlett Packard Enterprise acquired Aruba Networks.

We also face competition from other companies and new market entrants current technology partners and end customers who may acquire or develop network switches and cloud service solutions for internal use and/or to broaden their portfolio of products to market and sell to customers. Some of these competitors are developing networking products based on off-the-shelf or commoditized hardware technology, or “white box” hardware, particularly where an end customer’s network strategy seeks to emphasize deployment of such product offerings or adopt a disaggregated approach to the procurement of hardware and software. End customers may also increase their adoption of networking solutions based upon open source network operating systems that may be provided for free and used either on “white box” or proprietary hardware. The entrance of new competitors into our markets or the increased adoption of these new technology solutions or consumption models may cause downward pricing pressures, result in lost sales or otherwise have a material adverse effect on our business, prospects, financial condition and operating results.

Our relationships with our strategic alliance partners or suppliers may also shift as industry dynamics changes. If strategic alliance partners acquire or develop competitive products or services, our relationship with those partners may be adversely impacted, which could lead to more variability to our results of operations and impact the pricing of our solutions.

The principal competitive factors applicable to our products include:

- breadth of product offerings and features;
- reliability and product quality;
- ease of use;
- pricing;
- total cost of ownership, including automation, monitoring and integration costs;
- performance and scale;
- programmability and extensibility;
- interoperability with other products;
- ability to be bundled with other vendor offerings; and
- quality of service, support and fulfillment.

We believe our products compete favorably with respect to these factors. Our EOS software offers high reliability, integrates with existing network protocols and is open and programmable. We believe the combination of EOS, a set of network applications and our 1/2.5/5/10/25/40/50/100/400 Gigabit Ethernet platforms make our offering highly competitive for both cloud and enterprise data centers. However, many of our competitors have greater name recognition, longer operating histories, larger sales and marketing budgets and resources, broader distribution and established relationships with channel partners and end customers, greater access to larger end-customer bases, greater end-customer support resources, greater manufacturing resources, the ability to leverage their sales efforts across a broader portfolio of products, the ability to leverage purchasing power when purchasing subcomponents, the ability to bundle competitive offerings with other products and services, the ability to develop their own silicon chips, the ability to set more aggressive pricing policies, lower labor and development costs, greater resources to make acquisitions, larger intellectual property portfolios and substantially greater financial, technical, research and development or other resources.

Intellectual Property

Our success and ability to compete depend substantially upon our core technology and intellectual property. We rely on patent, trademark and copyright laws, trade secret protection and confidentiality agreements with our employees, end customers, resellers, systems integrators and others to protect our intellectual property rights. We file U.S and foreign patent applications to protect our intellectual property and believe that the duration of our issued patents is adequate relative to the expected lives of our products.

We cannot assure you that any of our patent applications will result in the issuance of a patent or whether the examination process will result in patents of valuable breadth or applicability. In addition, any patents that may be issued may be contested, circumvented, found unenforceable or invalidated, and we may not be able to prevent third parties from infringing them. We also license software from third parties for integration into our products, including open source software and other software available on commercially reasonable terms. We also own a number of trademarks in the U.S. and other jurisdictions, including Arista, EOS, CloudVision, CloudStream, CVP, CVX, Health Tracer, MapReduce Tracer, Path Tracer, MXP, MSS, RAIL, Score, SPLINE, SuperSpine, SSU, FlexRoute, NetRollBack, NetDB, OSFP, AlgoMatch, Macro-Segmentation and Macro-Segmentation Service.

We control access to and use of our software, technology and other proprietary information through internal and external controls, including contractual protections with employees, contractors, end customers and partners. Our software is protected by U.S. and international copyright, patent and trade secret laws. Despite our efforts to protect our software, technology and other proprietary information, unauthorized parties may still copy or otherwise obtain and use our software, technology and other proprietary information. In addition, we intend to expand our international operations, and effective patent, copyright, trademark and trade secret protection may not be available or may be limited in foreign countries.

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. If we become more successful, we believe that competitors will be more likely to try to develop products that are similar to ours and that may infringe our proprietary rights. It may also be more likely that competitors or other third parties will claim that our products infringe their proprietary rights. In particular, large and established companies in our industry have extensive patent portfolios and are regularly involved in both offensive and defensive litigation. From time to time, third parties, including certain of these large companies and non-practicing entities, may assert patent, copyright, trademark and other intellectual property rights against us, our channel partners or our end customers, whom our standard license and other agreements obligate us to indemnify against such claims. Please see “Legal Proceedings” included in Part I, Item 3 of this Annual Report on Form 10-K, for a description of this litigation.

Successful claims of infringement by a third party, if any, could prevent us from distributing certain products or performing certain services, require us to expend time and money to develop non-infringing solutions or force us to pay substantial damages, royalties or other fees. We cannot assure you that we do not currently infringe, or that we will not in the future infringe, upon any third-party patents or other proprietary rights.

Employees

As of December 31, 2019, we employed approximately 2,300 full-time employees. None of our employees are represented by unions. We consider our relationship with our employees to be good and have not experienced significant interruptions of operations due to labor disagreements.

Corporate Information

We were incorporated in the State of California as Arastra, Inc. in October 2004. We reincorporated in the State of Nevada in March 2008, and we changed our name to Arista Networks, Inc. in October 2008. We reincorporated in the State of Delaware in March 2014.

Available Information

Our website is located at www.arista.com and our investor relations website is located at investors.arista.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are available free of charge on the Investors portion of our web site as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (SEC).

Webcasts of our earnings calls and certain events we participate in or host with members of the investment community are on our investor relations website. Additionally, we announce investor information, including news and commentary about our business and financial performance, SEC filings, notices of investor events, and our press and earnings releases, on our investor relations website. Investors and others can receive notifications of new information posted on our investor relations website in real time by signing up for email alerts and RSS feeds. Further corporate governance information, including our corporate governance guidelines, board committee charters, and code of conduct, is also available on our investor relations website under the heading "Governance." The contents of our websites, or information that can be accessed through our websites, are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

Item 1A. Risk Factors

You should consider carefully the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, which could materially affect our business, financial condition, results of operations and prospects. The risks described below are not the only risks facing us. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially affect our business, financial condition, results of operations and prospects.

Risks Related to Our Business and Our Industry

The cloud networking market is rapidly evolving. If this market does not evolve as we anticipate or our target end customers do not adopt our cloud networking solutions, we may not be able to compete effectively, and our ability to generate revenue will suffer.

A substantial portion of our business and revenue depends on the growth and evolution of the cloud networking market. The market demand for cloud networking solutions has increased in recent years as end customers have deployed larger, more sophisticated networks and have increased the use of virtualization and cloud computing. The continued growth of this market will be dependent upon many factors including but not limited to the adoption of and demand for our end customers' products and services, the expansion, evolution and build out of our end customers' networks, the capacity utilization of existing network infrastructures, changes in the technological requirements for the products and services to be deployed in these networks, the amount and mix of capital spending by our end customers, the development of network switches and cloud service solutions by our large end customers for internal use, the financial performance and prospects of our end customers, the availability of capital resources to our end customers, changes in government regulation that could impact cloud networking business models including those regulations related to cybersecurity, privacy, data protection and net neutrality, our ability to provide cloud networking solutions that address the needs of end customers more effectively and economically than those of other competitors or existing technologies and general economic conditions.

If the cloud networking solutions market does not develop in the way we anticipate or otherwise experiences a slow-down, if our solutions do not offer benefits compared to competing networking products or if end customers do not recognize the benefits that our solutions provide, then our business, financial condition, results of operations and prospects could be materially adversely affected.

We expect large purchases by a limited number of end customers to continue to represent a substantial portion of our revenue, and any loss, delay, decline or other change in expected purchases could result in material quarter-to-quarter fluctuations of our revenue or otherwise adversely affect our results of operations.

Historically, large purchases by a relatively limited number of end customers have accounted for a significant portion of our revenue, particularly in the cloud networking market. Many of these end customers make large purchases to complete or upgrade specific data center installations and are typically made on a purchase-order basis rather than pursuant to long-term contracts. For example, revenue from sales to Microsoft, through our channel partner, World Wide Technology, Inc., accounted for 23%, 27% and 16% of our revenue for the years ended December 31, 2019, 2018 and 2017, respectively. In addition, revenue from sales to Facebook, through our channel partners, accounted for 17% of our revenue for the year ended December 31, 2019. Our sales to these end users in fiscal 2019 benefited from certain factors that are not expected to be repeated in fiscal 2020 or future years. As a result, the percentage of our revenue from Microsoft and Facebook in fiscal 2020 is expected to decline, which will likely impact our revenue growth.

As a consequence of the concentrated nature of our customer base and their purchasing behavior, our quarterly revenue and results of operations may fluctuate from quarter to quarter and are difficult to estimate. Changes in the business requirements or focus, vendor selection, project prioritization, manner in which spending allocations are assigned among multiple vendors based upon specific network roles or projects, financial prospects, lack of growth of our customers, capital resources and expenditures or purchasing behavior and deceleration in spending of our key end customers could significantly decrease our sales to such end customers or could lead to delays, reductions or cancellations of planned purchases of our products or services. Moreover, because our sales will be based primarily on purchase orders, our customers may cancel, delay, reduce or otherwise modify their purchase commitments with little or no notice to us. This limited visibility regarding our end customers' product needs, the timing and quantity of which could vary significantly, requires us to rely on estimated demand forecasts to determine how much material to purchase and product to manufacture. Our failure to accurately forecast demand can lead to product shortages which could lead to delays in fulfilling current and future purchase orders that can impede production by our customers and harm our customer relationships. And, in the event of a cancellation or reduction of an order, we may not have enough time to reduce operating expenses to mitigate the effect of the lost revenue on our business, which could materially affect our operating results.

We may be unable to sustain or increase our revenue from our large end customers, grow revenues with new or other existing end customers at the rate we anticipate or at all, or offset the discontinuation of concentrated purchases by our larger end customers with purchases by new or existing end customers. These customers can drive the growth in revenue for particular products and services based on factors such as: trends in the networking market, business mergers and acquisitions, trends in economic conditions and the overall fast growth of a customer's underlying business. These customers could choose to divert all or a portion of their business with us to one of our competitors, re-assign spending allocations, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or reduce their spending levels. If these factors drove some of our large customers to cancel all or a portion of their business relationships with us, the growth in our business and the ability to meet our current and long-term financial forecasts may be materially impacted. We expect that such concentrated purchases will continue to contribute materially to our revenue for the foreseeable future and that our results of operations may fluctuate materially as a result of such larger end customers' buying patterns. In addition, we may see consolidation of our customer base, such as among internet companies and cloud service providers, which could result in loss of end customers. The loss of such end customers, or a significant delay or reduction in their purchases, including reductions or delays due to customer departures from recent buying patterns, or an unfavorable change in competitive conditions could materially harm our business, financial condition, results of operations and prospects. For example, we have experienced reduced and volatile demand from certain of our large end customers during the year ended December 31, 2019, and expect this could continue in future periods.

Adverse economic conditions or reduced information technology and network infrastructure spending may adversely affect our business, financial condition, results of operations and prospects.

Our business depends on the overall demand for information technology, network connectivity and access to data and applications. Weak domestic or global economic conditions, fear or anticipation of such conditions, international trade disputes, or a reduction in information technology and network infrastructure spending even if economic conditions improve, could adversely affect our business, financial condition, results of operations and prospects in a number of ways, including longer sales cycles, lower prices for our products and services, higher default rates among our distributors, reduced unit sales and lower or no growth. For example, the global macroeconomic environment could be negatively affected by, among other things, instability in global economic markets resulting from increased U.S. trade tariffs and trade disputes between the U.S. and other countries, instability in the global credit markets, the impact and uncertainty regarding global central bank monetary policy, rising interest rates and increased inflation, including the instability in the geopolitical environment as a result of the withdrawal of the United Kingdom from the European Union, economic challenges in China, ongoing political demonstrations in Hong Kong, foreign governmental debt concerns and the impact of public health epidemics like the coronavirus affecting China. Such challenges have caused, and are likely to continue to cause, uncertainty and instability in local economies and in global financial markets, particularly if any future sovereign debt defaults or significant bank failures or defaults occur. Market uncertainty and instability in Europe or Asia could intensify or spread further, particularly if ongoing stabilization efforts prove insufficient. Continuing or worsening economic instability could adversely affect spending for IT, network infrastructure, systems and tools. Continued turmoil in the geopolitical environment in many parts of the world may also affect the overall demand for our products. Although we do not believe that our business, financial condition, results of operations and prospects have been significantly adversely affected by economic and political uncertainty in Europe, Asia or other countries to date, deterioration of such conditions may harm our business, financial condition, results of operations and prospects in the future. A prolonged period of economic uncertainty or a downturn may also significantly affect financing markets, the availability of capital and the terms and conditions of financing arrangements, including the overall cost of financing as well as the financial health or creditworthiness of our end customers. Circumstances may arise in which we need, or desire, to raise additional capital, and such capital may not be available on commercially reasonable terms, or at all.

Our business and operations have experienced rapid growth, and if we do not appropriately manage any future growth or are unable to improve our systems and processes, our business, financial condition, results of operations and prospects will be adversely affected.

We have experienced rapid growth and increased demand for our products over the last several years, which has placed a strain on our management, administrative, operational and financial infrastructure. Our employee headcount and number of end customers have increased, and we expect both to continue to grow over the next year. For example, between December 31, 2015 and December 31, 2019, our headcount grew from approximately 1,200 employees to approximately 2,300 employees, and our cumulative number of end customers grew from approximately 3,700 to over 6,000. As we have grown, we have had to manage an increasingly large and more complex array of internal systems and processes to scale with all aspects of our business, including our hardware and software development, contract manufacturing, purchasing, logistics, fulfillment and maintenance and support. Our success will depend in part upon our ability to manage our growth effectively. To do so, we must continue to increase the productivity of our existing employees and continue to hire, train and manage new employees as needed. To manage domestic and international growth of our operations and personnel, we will need to continue to improve our operational, financial and management controls and our reporting processes and procedures and implement more extensive and integrated financial and business information systems. We may not be able to successfully implement these or other improvements to our systems and processes in an efficient or timely manner, and we may discover deficiencies in their capabilities or effectiveness. We may experience difficulties in managing improvements to our systems and processes or in connection with third-party technology. In addition, our systems and processes may not prevent or detect all errors, omissions or fraud. Our failure to improve our systems and processes, or their failure to operate effectively and in the intended manner, may result in disruption of our current operations and end-customer relationships, our inability to manage the growth of our business and our inability to accurately forecast our revenue, expenses and earnings and prevent certain losses.

We pursue new product and service offerings and technology initiatives from time to time, and if we fail to successfully carry out these initiatives, our business, financial condition, or results of operations could be adversely impacted.

As part of the evolution of our business, we have made substantial investments to develop new products and services and enhancements to existing products through our acquisitions and research and development efforts to expand our product offerings and maintain revenue growth of the Company. If we are unable to anticipate technological changes in our industry by introducing new or enhanced products and services in a timely and cost-effective manner, or if we fail to introduce products and services that meet market demand, we may lose our competitive position, our products may become obsolete, and our business, financial condition or results of operations could be adversely affected.

Additionally, from time to time, we invest in expansion into adjacent markets, including the campus switching and WiFi networking markets. Although we believe these solutions are complementary to our current offerings, we have less experience and a more limited operating history in these markets, and our efforts in this area may not be successful. Expanding our services in existing and new markets and increasing the depth and breadth of our presence imposes significant burdens on our marketing, compliance, and other administrative and managerial resources. Our plan to expand and deepen our market share in our existing markets and possibly expand into additional markets is subject to a variety of risks and challenges. Our success in these new markets depends on a variety of factors, including the following:

- Our ability to develop new products, new product features and services that address the customer requirements for these markets;
- Our ability to attract a customer base in markets in which we have less experience;
- Our successful development of new sales and marketing strategies to meet customer requirements;
- Our ability to develop new channel relationships and enhance existing relationships to market and sell new products;
- Our ability to compete with new and existing competitors in these adjacent markets, many of which may have more financial resources, market experience, brand recognition, relevant intellectual property rights, or established customer relationships than we currently do;
- Our ability to skillfully balance our investment in adjacent markets with investment in our existing products and services;
- The success of our partnerships with other companies;
- Market acceptance of our new products; and
- Our ability to grow our sales force to address new markets.

Additionally, future market share gains may take longer than planned and cause us to incur significant costs. Difficulties in any of our new product development efforts or our efforts to enter adjacent markets could adversely affect our operating results and financial condition.

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

We must continue to enhance our existing products and develop new technologies and products that address emerging technological trends, evolving industry standards and changing end-customer needs. The process of enhancing our existing products and developing new technology is complex and uncertain, and new offerings requires significant upfront investment that may not result in material design improvements to existing products or result in marketable new products or costs savings or revenue for an extended period of time, if at all.

In addition, new technologies could render our existing products obsolete or less attractive to end customers, and our business, financial condition, results of operations and prospects could be materially adversely affected if such technologies are widely adopted. For example, end customers may prefer to address their network switch requirements by licensing software operating systems separately and placing them on industry-standard servers or develop their own networking products rather than purchasing integrated hardware products as has occurred in the server industry. Additionally, end customers may require product upgrades including higher ethernet speeds and additional functionality to address the increasing demands of the cloud computing environments.

In the past several years, we have announced a number of new products and enhancements to our products and services. For example, we recently introduced our 7800R family of products for demanding 400G cloud networks. The success of our new products depends on several factors including, but not limited to, appropriate new product definition, the development of product features that sufficiently meet end-user requirements, component costs, availability of 400G optical components, timely completion and introduction of these products, prompt solution 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.

Our product releases introduced new software products that include the capability for disaggregation of our software operating systems from our hardware. The success of our strategy to expand our software business is subject to a number of risks and uncertainties including the additional development efforts and costs to create these new products or make them compatible with other technologies, the potential for our strategy to negatively impact revenues and gross margins and additional costs associated with regulatory compliance.

We may not be able to successfully anticipate or adapt to changing technology or end-customer requirements on a timely basis, or at all. If we fail to keep up with technology changes or to convince our end customers and potential end customers of the value of our solutions even in light of new technologies, we may lose customers, decrease or delay market acceptance and sales of our present and future products and services and materially and adversely affect our business, financial condition, results of operations and prospects.

To remain competitive, we must successfully manage product introductions and transitions.

Our ability to continue to compete effectively in a rapidly evolving market requires that we successfully release new products that meet the increasingly sophisticated networking requirements of our end customers. For example, we introduced our 7800R family of products for demanding 400G cloud networks and the next generation of the Arista 7500R, 7280R Series. However, the ramp in production of our 400G products has been delayed. The success of new product introductions will depend on a number of factors including, but not limited to, timely and successful product development, market acceptance of our new products, our ability to penetrate new markets, our ability to manage the risks associated with new product production ramp-up issues, the timely development and availability of new merchant silicon chips from our suppliers, the effective management of purchase commitments and inventory in line with anticipated product demand, the availability of products in appropriate quantities and costs to meet anticipated demand, and the risk that new products may have quality or other defects or deficiencies in the early stages of introduction. For example, our new product releases will require strong execution from our third party merchant silicon chip suppliers to develop and release new merchant silicon chips that satisfy end-customer requirements, to meet expected release schedules and to provide sufficient quantities of these components. In addition, we introduced Arista Cognitive Cloud Networking for the Campus as well as Mojo Cognitive WiFi and Metamako low latency switches. If we are unable to successfully manage our product introductions or transitions, or if we fail to penetrate new markets, as a result of any of these or other factors, our business, financial condition, results of operations and prospects could be adversely affected.

Our revenue and our revenue growth rate may decline.

Our revenue growth rate in previous periods may not be indicative of our future performance. We have experienced annual revenue growth rates of 12.1%, 30.7%, and 45.8% in 2019, 2018, and 2017, respectively. In the future, we expect our revenue and our revenue growth rates to decline as we have become more penetrated with our existing customer base and product markets and as we look to enter and expand into new target markets. Other factors may also contribute to declines in our growth rates, including changes in demand for our products and services, particularly from our large end customers, changes in capital spending by our large end customers, increased competition, our ability to successfully manage our expansion or continue to capitalize on growth opportunities, the maturation of our business and general economic, international trade conditions, and our ability to be successful in adjacent markets, such as the campus switching and WiFi networking markets. For example, we have experienced volatility in demand from certain of these large end customers during 2019 resulting in slower overall revenue growth. Overall demand from these larger customers may decline in future periods, which would impact our future revenue growth. You should not rely on our revenue for any prior quarterly or annual period as an indication of our future revenue or revenue growth. If we are unable to maintain consistent revenue or revenue growth, our business, financial condition, results of operations and prospects could be materially adversely affected and our stock price could be volatile.

Our results of operations are likely to vary significantly from period to period and be unpredictable and if we fail to meet the expectations of analysts or investors or our previously issued financial guidance, or if any forward-looking financial guidance does not meet the expectation of analysts or investors, the market price of our common stock could decline substantially.

Our results of operations have historically varied from period to period, and we expect that this trend will continue. As a result, you should not rely upon our past financial results for any period as indicators of future performance. Our results of operations in any given period can be influenced by a number of factors, many of which are outside of our control and may be difficult to predict, including:

- our ability to increase sales to existing customers and attract new end customers, including large end customers;
- the budgeting cycles, purchasing practices and buying patterns of end customers, including large end customers who may receive lower pricing terms due to volume discounts and who may or may not make large bulk purchases in certain quarters or who may elect to re-assign allocations to multiple vendors based upon specific network roles or projects;
- changes in end-customer, geographic or product mix;
- changes in the growth rate of existing or new customers, including large end customers and service providers;
- changes in growth rates of the networking market;
- the cost and potential outcomes of existing and future litigation;
- increased expenses resulting from the tariffs imposed by the U.S. on goods from other countries and tariffs imposed by other countries on U.S. goods, including the tariffs implemented by the U.S. government on various imports from China;
- changes in the sales and implementation cycles for our products including the qualification and testing of our products by our customers and any delays or cancellations of purchases caused by such activities;
- the rate of expansion and productivity of our sales force including any expansion into new markets;
- changes in our pricing policies, whether initiated by us or as a result of competition;
- our inability to fulfill our end customers' orders due to the availability of inventory, supply chain delays, access to key commodities or technologies or events that impact our manufacturers or their suppliers such as the recent U.S. trade wars with China and the impact of public health epidemics like the coronavirus currently affecting China;
- the amount and timing of operating costs and capital expenditures related to the operation and expansion of our business;
- changes in end-customer, distributor or reseller requirements or market needs;
- difficulty forecasting, budgeting and planning due to limited visibility beyond the first two quarters into the spending plans of current or prospective customers;
- deferral, reduction or cancellation of orders from end customers, including in anticipation of new products or product enhancements announced by us or our competitors, or warranty returns;
- the inclusion of any acceptance provisions in our customer contracts or any delays in acceptance of those products;
- the actual or rumored timing and success of new product and service introductions by us or our competitors including the execution of such new product and service introductions or any other change in the competitive landscape of our industry, including consolidation among our competitors or end customers;
- our ability to successfully expand our business domestically and internationally;

- our ability to increase the size of our sales or distribution channel, any disruption in our sales or distribution channels, and/or termination of our relationship with important channel partners;
- decisions by potential end customers to purchase our networking solutions from larger, more established vendors, white box vendors or their primary network equipment vendors;
- price competition;
- insolvency or credit difficulties confronting our end customers, which could adversely affect their ability to purchase or pay for our products and services, or confronting our key suppliers, including our sole source suppliers, which could disrupt our supply chain;
- seasonality or cyclical fluctuations in our markets;
- future accounting pronouncements or changes in our accounting policies;
- stock-based compensation expense;
- our overall effective tax rate, including impacts caused by any reorganization in our corporate structure, any changes in our valuation allowance for domestic deferred tax assets and any new legislation or regulatory developments, including the Tax Cuts and Jobs Act of 2017 (the “Tax Act”);
- increases or decreases in our expenses caused by fluctuations in foreign currency exchange rates, as an increasing portion of our expenses are incurred and paid in currencies other than the U.S. dollar;
- general economic conditions, both domestically and in foreign markets; and
- other risk factors described in this Annual Report on Form 10-K.

Any one of the factors above or the cumulative effect of several of the factors described above may result in significant fluctuations in our financial and other results of operations and may cause the market price of our common stock to decline. In the past, we have failed to meet investor financial expectations and the market price of our common stock declined. This variability and unpredictability could result in our failure to meet our revenue, gross margins, results of operations or other expectations contained in any forward looking financial guidance we have issued or the expectations of securities analysts or investors for a particular period. If we fail to meet or exceed such guidance or expectations for these or any other reasons, the market price of our common stock could decline substantially, and we could face costly lawsuits, including securities class action suits.

If we are unable to attract new large end customers or to sell additional products and services to our existing end customers, our revenue growth will be adversely affected and our revenue could decrease.

To increase our revenue, we must add new end customers and large end customers and sell additional products and services to existing end customers. For example, one of our sales strategies is to target specific projects at our current end customers because they are familiar with the operational and economic benefits of our solutions, thereby reducing the sales cycle into these customers. We also believe the opportunity with current end customers to be significant given their existing infrastructure and expected future spend. Another one of our sales strategies is focused on increasing penetration in the enterprise and campus markets. However, sales strategies focused on expansion to adjacent markets can require more time and effort since enterprise and campus end customers typically start with small purchases, and there is often a long testing period. For this reason, in order to grow our revenue, it is important for us to attract new large end customers. Some factors that may limit our ability to attract new large end customers include, but are not limited to, saturation with certain of the large cloud networking customers, competition, decreased capital spending of such customers, a limited number of such customers, and a decline in growth of such customers. If we fail to attract new large end customers, including enterprise and campus end customers, or fail to reduce the sales cycle and sell additional products to our existing end customers, our business, financial condition, results of operations and prospects will be harmed.

Some of our large end customers require more favorable terms and conditions from their vendors and may request price concessions. As we seek to sell more products to these end customers, we may be required to agree to terms and conditions that may have an adverse effect on our business or ability to recognize revenue.

Our large end customers have significant purchasing power and, as a result, may receive more favorable terms and conditions than we typically provide to other end customers, including lower prices, bundled upgrades, extended warranties, acceptance terms, indemnification terms and extended return policies and other contractual rights. As we seek to sell more products to these large end customers, an increased mix of our shipments may be subject to such terms and conditions, which may reduce our margins or affect the timing of our revenue recognition and thus may have an adverse effect on our business, financial condition, results of operations and prospects.

We face intense competition, especially from larger, well-established companies, and we may lack sufficient financial or other resources to maintain or improve our competitive position.

The markets in which we compete, including the markets for data center and campus networking, are intensely competitive, and we expect competition to increase in the future from established competitors and new market entrants. This competition could result in increased pricing pressure, reduced profit margins, increased sales and marketing expenses and our failure to increase, or the loss of, market share, any of which would likely seriously harm our business, financial condition, results of operations and prospects.

The data center and campus networking markets have been historically dominated by Cisco, with competition also coming from other large network equipment and system vendors, including Extreme Networks, Dell/EMC, Hewlett Packard Enterprise, and Juniper Networks. Most of our competitors and some strategic alliance partners have made acquisitions and/or have entered into or extended partnerships or other strategic relationships to offer more comprehensive product lines, including cloud networking solutions. For example, Broadcom acquired Brocade Communications Systems, Extreme Networks purchased certain data center networking assets from Broadcom/Brocade and Avaya, Dell acquired EMC, and Hewlett Packard Enterprise acquired Aruba Networks.

We also face competition from other companies and new market entrants, including current technology partners, suppliers and end customers or other cloud service providers who may acquire or develop network switches and cloud service solutions for internal use and/or to broaden their portfolio of products to market and sell to customers. Some of these competitors are developing networking products based on off-the-shelf or commoditized hardware technology, or "white box" hardware, particularly where an end customer's network strategy seeks to emphasize deployment of such product offerings or adopt a disaggregated approach to the procurement of hardware and software. End customers may also increase their adoption of networking solutions based upon open source network operating systems that may be provided for free and used either on "white box" or proprietary hardware. The entrance of new competitors into our markets or the increased adoption of these new technology solutions or consumption models may cause downward pricing pressures, result in lost sales or otherwise have a material adverse effect on our business, prospects, financial condition and operating results.

Our relationships with our strategic alliance partners or suppliers may also shift as industry dynamics changes. If strategic alliance partners acquire or develop competitive products or services, our relationship with those partners may be adversely impacted, which could lead to more variability to our results of operations and impact the pricing of our solutions.

Many of our existing and potential competitors enjoy substantial competitive advantages, such as:

- greater name recognition and longer operating histories;
- larger sales and marketing budgets and resources;
- broader distribution and established relationships with channel partners and end customers;
- greater access to larger end-customer bases;
- greater end-customer support resources;
- greater manufacturing resources;
- the ability to leverage their sales efforts across a broader portfolio of products;
- the ability to leverage purchasing power with vendor subcomponents;
- the ability to bundle competitive offerings with other products and services;
- the ability to develop their own silicon chips;
- the ability to set more aggressive pricing policies including bundling of products that are competitive with ours with other products that we do not sell or with support service contracts;
- lower labor and development costs;

- greater resources to make acquisitions;
- larger intellectual property portfolios; and
- substantially greater financial, technical, research and development or other resources.

Our competitors also may be able to provide end customers with capabilities or benefits different from or greater than those we can provide in areas such as technical qualifications or geographic presence or may be able to provide end customers a broader range of products, services and prices. In addition, large competitors may have more extensive relationships with and within existing and potential end customers that provide them with an advantage in competing for business with those end customers. For example, certain large competitors encourage end customers of their other products and services to adopt their data networking solutions through discounted bundled product packages. Our ability to compete will depend upon our ability to provide a better solution than our competitors at a more competitive price. We may be required to make substantial additional investments in research, development, marketing and sales in order to respond to competition, and we cannot assure you that these investments will achieve any returns for us or that we will be able to compete successfully in the future.

We also expect increased competition if our market continues to expand. As we continue to expand globally, we may see new competition in different geographic regions. In particular, we may experience price-focused competition from competitors in Asia, especially from China. As we expand into new markets, we will face competition not only from our existing competitors but also from other competitors, including existing companies with strong technological, marketing, and sales positions in those markets, as well as those with greater resources, including technical and engineering resources, than we do. Conditions in our market could change rapidly and significantly as a result of technological advancements or other factors. Current or potential competitors may be acquired by third parties that have greater resources available than we do. Our current or potential competitors might take advantage of the greater resources of the larger organization resulting from these acquisitions to compete more vigorously or broadly with us. In addition, continued industry consolidation might adversely affect end customers' perceptions of the viability of smaller and even medium-sized networking companies and, consequently, end customers' willingness to purchase from those companies. Further, certain large end customers may develop network switches and cloud service solutions for internal use and/or to broaden their portfolio of products, which could allow these end customers to become new competitors in the market.

Industry consolidation may lead to increased competition and may harm our business, financial condition, results of operations and prospects.

Most of our competitors and some strategic alliance partners have made acquisitions and/or have entered into or extended partnerships or other strategic relationships to offer more comprehensive product lines, including cloud networking solutions. For example, Broadcom acquired Brocade Communications Systems, Extreme Networks purchased certain data center networking assets from Broadcom/Brocade and Avaya, Dell acquired EMC, and Hewlett Packard Enterprise acquired Aruba Networks.

Moreover, large system vendors are increasingly seeking to deliver top-to-bottom cloud networking solutions to end customers that combine cloud-focused hardware and software solutions to provide an alternative to our products.

We expect this trend to continue as companies attempt to strengthen their market positions in an evolving industry and as companies are acquired or are unable to continue operations. Our relationship with our strategic alliance partners may shift as industry dynamics change. For example, companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors and could combine competitor product portfolios into unified offerings optimized for their platforms. Such changes could result in a reduction of business with us, a change in the terms upon which they offer us their products and services or even a termination of our strategic partnerships entirely. Industry consolidation may result in stronger competitors that are better able to compete with us, including any competitors that seek to become sole source vendors for end customers. This could lead to more variability in our results of operations and could have a material adverse effect on our business, the pricing of our solutions, financial condition, results of operations and prospects.

Managing the supply of our products and product components is complex. Insufficient component supply and inventory may result in lost sales opportunities or delayed revenue, while excess inventory may harm our gross margins.

Managing our extended supply chain is complex, and our inventory management systems and related supply-chain visibility tools may not enable us to forecast accurately and effectively manage the supply of our products and product components. Our ability to manage our supply chain may also be adversely affected by other factors including shortages of components used to manufacture our products, a reduction or interruption of supply, prioritization of component shipments to other vendors, cessation of manufacturing of such components by our suppliers and geopolitical conditions such as the U.S. trade war with China and the impact of public health epidemics like the coronavirus affecting China.

Insufficient component supply, or any increases in the time required to manufacture our products, may lead to inventory shortages that could result in increased customer lead times for our products, delayed revenue or loss of sales opportunities altogether as potential end customers turn to competitors' products that are readily available. For example, we have been delayed in ramping our 400G products because of the limited availability of optical components.

In order to reduce manufacturing lead times and plan for adequate component supply, from time to time we may issue purchase orders for components and products that are non-cancelable and non-returnable. We establish a liability for non-cancelable, non-returnable purchase commitments with our component inventory suppliers for quantities in excess of our demand forecasts, or for products that are considered obsolete. In addition, we establish a liability and reimburse our contract manufacturer for component inventory purchased on our behalf that has been rendered excess or obsolete due to manufacturing and engineering change orders, or in cases where inventory levels greatly exceed our demand forecasts.

Inventory management remains an increased area of focus as we balance the need to maintain sufficient inventory levels to ensure competitive lead times against the risk of obsolescence or the end of life of certain products. If we ultimately determine that we have excess inventory or obsolete inventory, we may have to reduce our prices and write down inventory to its estimated realizable value, which in turn could result in lower gross margins.

If we are unable to effectively manage our supply and inventory, our business, financial condition, results of operations and prospects could be adversely affected.

Because some of the key components in our products come from sole or limited sources of supply, we are susceptible to supply shortages or supply changes, which could disrupt or delay our scheduled product deliveries to our end customers and may result in the loss of sales and end customers.

Our products rely on key components, including merchant silicon chips, integrated circuit components, printed circuit boards, connectors, custom-tooled sheet metal and power supplies that we purchase or our contract manufacturers purchase on our behalf from a limited number of suppliers, including certain sole source providers. Generally, we do not have guaranteed supply contracts with our component suppliers, and our suppliers could suffer shortages, delay shipments, prioritize shipments to other vendors, increase prices or cease manufacturing such products or selling them to us at any time. Supply of these components may also be adversely affected by industry consolidation which could result in increased component prices or fewer sourcing options as well as geopolitical conditions such as international trade wars like the U.S. trade war with China and the impact of public health epidemics like the coronavirus currently affecting China. For example, in the past, we have experienced shortages in inventory for dynamic random access memory integrated circuits and delayed releases of the next generation of chipset, which delayed our production and/or the release of our new products.

The development of alternate sources for those components is time-consuming, difficult and costly. If we are unable to obtain sufficient quantities of these components on commercially reasonable terms or in a timely manner, or if we are unable to obtain alternative sources for these components, sales of our products could be delayed or halted entirely or we may be required to redesign our products. Any of these events could result in lost sales, reduced gross margins or damage to our end customer relationships, which would adversely impact our business, financial condition, results of operations and prospects.

Our reliance on component suppliers also yields the potential for their infringement or misappropriation of third party intellectual property rights with respect to components which may be incorporated into our products. We may not be indemnified by such component suppliers for such infringement or misappropriation claims. Any litigation for which we do not receive indemnification could require us to incur significant legal expenses in defending against such claims or require us to pay substantial royalty payments or settlement amounts that would not be reimbursed by our component suppliers.

Our product development efforts are also dependent upon our continued collaboration with our key merchant silicon vendors such as Broadcom and Intel. As we develop our product roadmap, we select specific merchant silicon from these vendors for each new product, it is critical that we work in tandem with these vendors to ensure that their silicon includes improved features, that our products take advantage of such improved features, and that such vendors are able to supply us with sufficient quantities on commercially reasonable term to meet customer demand. Our relationship with these merchant silicon vendors enables us to focus our research and development resources on our software core competencies and to leverage the investments made by merchant silicon vendors to achieve cost-effective solutions. However, merchant silicon vendors may not continue to collaborate with us or may become competitive with us by selling merchant silicon for “white boxes” or other products to our customers.

If our key merchant silicon vendors no longer collaborate in such a fashion, if they do not continue to innovate, if there are delays in the release of their products or supply shortages or if such merchant silicon is not offered to us on commercially reasonable terms, our products may become less competitive, own product launches could be delayed or we may be required to redesign our products to incorporate alternative merchant silicon, which could result in lost sales, reduce gross margins, damage to our customer relationships or otherwise have a material effect on revenue and business, financial condition, results of operations and prospects.

In the event of a shortage or supply interruption from our component suppliers, we may not be able to develop alternate or second sources in a timely manner. Further, long-term supply and maintenance obligations to end customers increase the duration for which specific components are required, which may increase the risk of component shortages or the cost of carrying inventory. In addition, our component suppliers change their selling prices frequently in response to market trends, including industry-wide increases in demand, and because we do not have contracts with these suppliers or guaranteed pricing, we are susceptible to availability or price fluctuations related to raw materials and components. If we are unable to pass component price increases along to our end customers or maintain stable pricing, our gross margins could be adversely affected and our business, financial condition, results of operations and prospects could suffer.

Because we depend on third-party manufacturers to build our products, we are susceptible to manufacturing delays and pricing fluctuations that could prevent us from shipping end-customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales and end customers.

We depend on third-party contract manufacturers to manufacture our product lines. A significant portion of our cost of revenue consists of payments to these third-party contract manufacturers. Our reliance on these third-party contract manufacturers reduces our control over the manufacturing process, quality assurance, product costs and product supply and timing, which exposes us to risk. To the extent that our products are manufactured at facilities in foreign countries, we may be subject to additional risks associated with complying with local rules and regulations in those jurisdictions. Our reliance on contract manufacturers also yields the potential for their infringement of third party intellectual property rights in the manufacturing of our products or misappropriation of our intellectual property rights in the manufacturing of other customers’ products. If we are unable to manage our relationships with our third-party contract manufacturers effectively, or if these third-party manufacturers suffer delays or disruptions or quality control problems in their operations, experience increased manufacturing lead times, capacity constraints or quality control problems in their manufacturing operations or fail to meet our future requirements for timely delivery, our ability to ship products to our end customers would be severely impaired, and our business, financial condition, results of operations and prospects would be seriously harmed.

Our contract manufacturers typically fulfill our supply requirements on the basis of individual orders. We do not have long-term contracts with our third-party manufacturers that guarantee capacity, the continuation of particular pricing terms or the extension of credit limits. Accordingly, they are not obligated to continue to fulfill our supply requirements, which could result in supply shortages, and the prices we are charged for manufacturing services could be increased on short notice. For example, a competitor could place large orders with the third-party manufacturer, thereby utilizing all or substantially all of such third-party manufacturer's capacity and leaving the manufacturer little or no capacity to fulfill our individual orders without price increases or delays, or at all. Our contract with one of our contract manufacturers permits it to terminate the agreement for convenience, subject to prior notice requirements. We may not be able to develop alternate or second contract manufacturers in a timely manner.

If we add or change contract manufacturers, or change any manufacturing plant locations within a contract manufacturer network, we would add additional complexity and risk to our supply chain management and may increase our working capital requirements. Ensuring a new contract manufacturer or new plant location is qualified to manufacture our products to our standards and industry requirements could take significant effort and be time consuming and expensive. Any addition or change in manufacturers may be extremely costly, time consuming and we may not be able to do so successfully.

In addition, we may be subject to additional significant challenges to ensure that quality, processes and costs, among other issues, are consistent with our expectations and those of our customers. A new contract manufacturer or manufacturing location may not be able to scale its production of our products at the volumes or quality we require. This could also adversely affect our ability to meet our scheduled product deliveries to our end customers, which could damage our customer relationships and cause the loss of sales to existing or potential end customers, late delivery penalties, delayed revenue or an increase in our costs which could adversely affect our gross margins. This could also result in increased levels of inventory subjecting us to increased excess and obsolete charges that could have a negative impact on our operating results.

Any production interruptions or disruptions for any reason, including those noted above, as well as a natural disaster, epidemic, capacity shortages, adverse results from intellectual property litigation or quality problems, at one of our manufacturing partners would adversely affect sales of our product lines manufactured by that manufacturing partner and adversely affect our business, financial condition, results of operations and prospects.

Product quality problems, defects, errors or vulnerabilities in our products or services could harm our reputation and adversely affect our business, financial condition, results of operations and prospects.

We produce highly complex products that incorporate advanced technologies, including both hardware and software technologies. Despite testing prior to their release, our products may contain undetected defects or errors, especially when first introduced or when new versions are released. Product defects or errors could affect the performance of our products and could delay the development or release of new products or new versions of products. Allegations of unsatisfactory performance could cause us to lose revenue or market share, increase our service costs, cause us to incur substantial costs in analyzing, correcting or redesigning the products, cause us to lose significant end customers, subject us to liability for damages and divert our resources from other tasks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects.

From time to time, we have had to replace certain components of products that we had shipped and provide remediation in response to the discovery of defects or bugs, including failures in software protocols or defective component batches resulting in reliability issues, in such products, and we may be required to do so in the future. We may also be required to provide full replacements or refunds for such defective products. We cannot assure you that such remediation would not have a material effect on our business, financial condition, results of operations and prospects. See "—Our business is subject to the risks of warranty claims, product returns, product liability and product defects."

Interruptions or delays in shipments could cause our revenue for the applicable period to fall below expected levels.

We may be subject to supply chain delays, or end-customer buying patterns in which a substantial portion of sales orders and shipments may occur in the second half of each quarter. This places significant pressure on order review and processing, supply chain management, manufacturing, inventory and quality control management, shipping and trade compliance to ensure that we have properly forecasted supply purchasing, manufacturing capacity, inventory and quality compliance and logistics. A significant interruption in these critical functions, it could result in delayed order fulfillment, adversely affect our business, financial condition, results of operations and prospects and result in a decline in the market price of our common stock.

We base our inventory requirements on our forecasts of future sales. If these forecasts are materially inaccurate, we may procure inventory that we may be unable to use in a timely manner or at all.

We and our contract manufacturers procure components and build our products based on our forecasts. These forecasts are based on estimates of future demand for our products, which are in turn based on historical trends and analyses from our sales and marketing organizations, adjusted for overall market conditions and other factors. To the extent our forecasts are materially inaccurate or if we otherwise do not need such inventory, we may under- or over-procure inventory, and such inaccuracies in our forecasts could materially adversely affect our business, financial condition and results of operations.

The sales prices of our products and services may decrease, which may reduce our gross profits and adversely affect our results of operations.

The sales prices for our products and services may decline for a variety of reasons, including competitive pricing pressures, discounts, a change in our mix of products and services, the introduction of new products and services by us or by our competitors including the adoption of “white box” solutions, promotional programs, product and related warranty costs or broader macroeconomic factors. In addition, we have provided, and may in the future provide, pricing discounts to large end customers, which may result in lower margins for the period in which such sales occur. Our gross margins may also fluctuate as a result of the timing of such sales to large end customers.

We have experienced declines in sales prices for our products and services. Competition continues to increase in the market segments in which we participate, and we expect competition to further increase in the future, thereby leading to increased pricing pressures. Larger competitors with more diverse product and service offerings may reduce the price of products and services that compete with ours or may bundle them with other products and services. Additionally, although we generally price our products and services worldwide in U.S. dollars, currency fluctuations in certain countries and regions may adversely affect actual prices that partners and end customers are willing to pay in those countries and regions. Furthermore, we anticipate that the sales prices and gross profits for our products will decrease over product life cycles. Decreased sales prices for any reason may reduce our gross profits and adversely affect our result of operations.

Our ability to sell our products is highly dependent on the quality of our support and services offerings, and our failure to offer high-quality support and services could have a material adverse effect on our business, financial condition, results of operations and prospects.

Once our products are deployed within our end customers’ networks, our end customers depend on our support organization and our channel partners to resolve any issues relating to our products. High-quality support is critical for the successful marketing and sale of our products. If we or our channel partners do not assist our end customers in deploying our products effectively, do not succeed in helping our end customers resolve post-deployment issues quickly or do not provide adequate ongoing support, or if we experience quality issues with these new products, it could adversely affect our ability to sell our products to existing end customers and could harm our reputation with potential end customers. In addition, as we expand our operations internationally, our support organization will face additional challenges, including those associated with delivering support, training and documentation in languages other than English. Our failure or the failure of our channel partners to maintain high-quality support and services could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our business depends on end customers renewing their maintenance and support contracts. Any decline in maintenance renewals could harm our future business, financial condition, results of operations and prospects.

We typically sell our products with maintenance and support as part of the initial purchase, and a portion of our annual revenue comes from renewals of maintenance and support contracts. Our end customers have no obligation to renew their maintenance and support contracts after the expiration of the initial period, and they may elect not to renew their maintenance and support contracts, to renew their maintenance and support contracts at lower prices through alternative channel partners or to reduce the product quantity under their maintenance and support contracts, thereby reducing our future revenue from maintenance and support contracts. If our end customers, especially our large end customers, do not renew their maintenance and support contracts or if they renew them on terms that are less favorable to us, our revenue may decline and our business, financial condition, results of operations and prospects will suffer.

If we are unable to increase market awareness of our company and our products, our revenue may not continue to grow or may decline.

We have not yet established broad market awareness of our products and services. Market awareness of our value proposition and products and services will be essential to our continued growth and our success, particularly for the service provider and large enterprise markets. If our marketing efforts are unsuccessful in creating market awareness of our company and our products and services, then our business, financial condition, results of operations and prospects will be adversely affected, and we will not be able to achieve sustained growth.

If we are unable to hire, retain, train and motivate qualified personnel and senior management, our business, financial condition, results of operations and prospects could suffer.

Our future success depends, in part, on our ability to continue to attract and retain highly skilled personnel, particularly software engineering and sales personnel. In addition, our success in expanding into adjacent markets including the enterprise market requires a significant investment of time, effort and financial resources into hiring and training our sales force to address these markets. Competition for highly skilled personnel is often intense, especially in the San Francisco Bay Area where we have a substantial presence and need for highly skilled personnel. Many of the companies with which we compete for experienced personnel have greater resources than we have to provide more attractive compensation packages and other amenities. Research and development personnel are aggressively recruited by startup and growth companies, which are especially active in many of the technical areas and geographic regions in which we conduct product development. In addition, in making employment decisions, particularly in the high-technology industry, job candidates often consider the value of the stock-based compensation they are to receive in connection with their employment. Declines in the market price of our stock could adversely affect our ability to attract, motivate or retain key employees. If we are unable to attract or retain qualified personnel, or if there are delays in hiring required personnel, our business, financial condition, results of operations and prospects may be seriously harmed.

Also, to the extent we hire personnel from competitors, we may be subject to allegations that such personnel has been improperly solicited, that such personnel has divulged proprietary or other confidential information or that former employers own certain inventions or other work product. Such claims could result in litigation. Please see “We may become involved in litigation that may materially adversely affect us.”

We employ a number of foreign nationals who are required to obtain visas and entry permits in order to legally work in the United States and other countries. The United States has recently increased the level of scrutiny in granting H-1(B), L-1 and other business visas, and the current administration has indicated that immigration reform is a priority. Our 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.

Our future performance also depends on the continued services and continuing contributions of our senior management to execute our business plan and to identify and pursue new opportunities and product innovations. Our employment arrangements with our employees do not require that they continue to work for us for any specified period, and therefore, they could terminate their employment with us at any time. The loss of our key personnel, including Jayshree Ullal, our Chief Executive Officer, Andy Bechtolsheim, our Founder and Chief Development Officer, Kenneth Duda, our Founder, Chief Technology Officer and SVP of Software Engineering, Anshul Sadana, our Chief Operating Officer or other members of our senior management team, sales and marketing team or engineering team, or any difficulty attracting or retaining other highly qualified personnel in the future, could significantly delay or prevent the achievement of our development and strategic objectives, which could adversely affect our business, financial condition, results of operations and prospects.

If we do not effectively expand and train our direct sales force, we may be unable to add new end customers, increase sales to our existing end customers, and/or successfully expand into new markets, and our business will be adversely affected.

We depend on our direct sales force to obtain new end customers and increase sales with existing end customers. As such, we have invested and will continue to invest in our sales organization. In recent periods, we have been adding personnel and other resources to our sales function as we focus on growing our business, entering new markets and increasing our market share, and we expect to incur additional expenses in expanding our sales personnel in order to achieve revenue growth. For example, we expect to continue to invest significant time, effort and financial resources into hiring and training our sales force to address the enterprise and campus markets. Despite our efforts, we may not have significant experience selling to enterprise and campus customers, and there can be no assurance that we will be successful in these markets. There is significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve revenue growth will depend, in large part, on our success in recruiting, training, retaining and integrating sufficient numbers of sales personnel to support our growth, particularly in international markets. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire, retain or integrate into our corporate culture sufficient numbers of qualified individuals in the markets where we do business or plan to do business. In addition, because we continue to grow rapidly, a large percentage of our sales force is new to our company. If we are unable to hire, integrate and train a sufficient number of effective sales personnel, or the sales personnel we hire are not successful in obtaining new end customers or increasing sales to our existing end-customer base, our business, financial condition, results of operations and prospects will be adversely affected.

We are subject to a number of risks associated with the expansion of our international sales and operations.

Our ability to grow our business and our future success will depend to a significant extent on our ability to expand our operations and customer base worldwide. We have a limited history of marketing, selling and supporting our products and services internationally. Operating in a global marketplace, we are subject to risks associated with having an international reach and requirements such as compliance with applicable anti-corruption laws.

One such applicable anti-corruption law is the U.S. Foreign Corrupt Practices Act, or FCPA, which generally prohibits U.S. companies and its employees and intermediaries from making corrupt payments to foreign officials for the purpose of obtaining or keeping business, securing an advantage and directing business to another, and requires companies to maintain accurate books and records and a system of internal accounting controls. Under the FCPA, U.S. companies may be held liable for the corrupt actions taken by directors, officers, employees, agents, or other strategic or local partners or representatives. As such, if we or our intermediaries fail to comply with the requirements of the FCPA or similar legislation, governmental authorities in the U.S. and elsewhere could seek to impose civil and/or criminal fines and penalties which could have a material adverse effect on our business, results of operations and financial conditions. Failure to comply with anti-corruption and anti-bribery laws, such as the FCPA and the United Kingdom Bribery Act of 2010, or the U.K. Bribery Act, and similar laws associated with our activities outside the U.S., could subject us to penalties and other adverse consequences. We intend to increase our international sales and business and, as such, the risk of violating laws such as the FCPA and U.K. Bribery Act increases.

Additionally, the U.S. government has adopted broader sanctions and embargoes that generally forbid supplying many items to or involving certain countries, territories, governments, legal entities and individuals, including restrictions imposed by the U.S. and EU on exports to Russia and Ukraine. We have implemented systems to detect and prevent sales into these countries or to prohibit entities or individuals, but we are necessarily dependent in part on our third-party suppliers and distributors to implement these systems. We cannot assure you that these systems will always be effective, or that our suppliers and distributors effectively implement our systems to detect and prevent such sales without our prior knowledge, and we may incur additional unexpected costs or expenses to comply with applicable trade restrictions.

As a result of our international reach, we must hire and train experienced personnel to staff and manage our foreign operations. To the extent that we experience difficulties in recruiting, training, managing and retaining an international staff, and specifically staff related to sales management and sales personnel, we may experience difficulties in sales productivity in foreign markets. We also enter into strategic distributor and reseller relationships with companies in certain international markets where we do not have a local presence. If we are not able to maintain successful strategic distributor relationships internationally or to recruit additional companies to enter into strategic distributor relationships, our future success in these international markets could be limited. Business practices in the international markets that we serve may differ from those in the U.S. and may require us in the future to include terms other than our standard terms in end-customer contracts, although to date we generally have not done so. To the extent that we may enter into end-customer contracts in the future that include non-standard terms related to payment, warranties or performance obligations, our results of operations may be adversely affected.

Additionally, our international sales and operations are subject to a number of risks, including the following:

- greater difficulty in enforcing contracts and accounts receivable collection and longer collection periods;
- increased expenses incurred in establishing and maintaining our international operations;
- fluctuations in exchange rates between the U.S. dollar and foreign currencies where we do business;
- the impact of public health epidemics on our employees, suppliers and contract manufacturers as well as the global economy such as the coronavirus currently impacting China;
- greater difficulty and costs in recruiting local experienced personnel;
- wage inflation in certain growing economies;
- general economic and political conditions in these foreign markets;
- economic uncertainty around the world as a result of sovereign debt issues;
- communication and integration problems resulting from cultural and geographic dispersion;
- limitations on our ability to access cash resources in our international operations;
- ability to establish necessary business relationships and to comply with local business requirements;
- risks associated with foreign legal requirements, including those relating to privacy, data protection and the importation, certification and localization of our products in foreign countries;
- risks associated with U.S. government trade restrictions, including those which may impose restrictions, including prohibitions, on the exportation, reexportation, sale, shipment or other transfer of programming, technology, components, and/or services to foreign persons;
- greater risk of unexpected changes in regulatory practices, tariffs and tax laws and treaties, including the Tax Act;
- greater risk of unexpected changes in tariffs imposed by the U.S. on goods from other countries and tariffs imposed by other countries on U.S. goods, including the tariffs implemented by the U.S. government on various imports from China, Canada, Mexico and the EU, and by the governments of these jurisdictions on certain U.S. goods, and any other possible tariffs that may be imposed on services such as ours, the scope and duration of which, if implemented, remain uncertain;
- deterioration of political relations between the U.S. and Canada, the U.K., the EU, Mexico and China, which could have a material adverse effect on our sales and operations in these countries;
- greater risk of changes in diplomatic and trade relationships, including new tariffs, trade protection measures, import or export licensing requirements, trade embargoes and other trade barriers;
- the uncertainty of protection for intellectual property rights in some countries;
- greater risk of a failure of foreign employees to comply with both U.S. and foreign laws, including antitrust regulations, the FCPA and any trade regulations ensuring fair trade practices; and
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements.

These and other factors could harm our ability to gain future international revenue and, consequently, materially affect our business, financial condition, results of operations and prospects. Expanding our existing international operations and entering into additional international markets will require significant management attention and financial commitments. Our failure to successfully manage our international operations and the associated risks effectively could limit our future growth or materially adversely affect our business, financial condition, results of operations and prospects.

Moreover, our business is also impacted by the negotiation and implementation of free trade agreements between the United States and other countries. 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 agreements, known as the United States-Mexico-Canada Agreement, our cost of doing business within the three countries could increase.

We are subject to risks related to Brexit.

On January 31, 2020, the United Kingdom, or UK, left the European Union, or EU, (commonly referred to as the "Brexit"). Brexit creates an uncertain political and economic environment in the UK and potentially across other EU member states for the foreseeable future, including during any period while the terms of the future relationship between the UK and EU are being negotiated and such uncertainties could impair or limit our ability to transact business in the member EU states. Additionally, there also is a risk that other countries may decide to leave the EU.

Further, Brexit could adversely affect European and worldwide economic or market conditions and could contribute to instability in global financial markets, and the value of the Pound Sterling currency or other currencies, including the Euro. We are exposed to the economic, market and fiscal conditions in the UK and the EU and to changes in any of these conditions. Consequently, no assurance can be given as to the impact of Brexit, or continued uncertainty regarding it, and, in particular, no assurance can be given that our operating results, financial condition and prospects would not be adversely impacted by the result.

Enhanced United States tax, tariff, import/export restrictions, Chinese regulations or other trade barriers may have a negative effect on global economic conditions, financial markets and our business.

There is currently significant uncertainty about the future relationship between the United States and various other countries, most significantly China, with respect trade policies, treaties, tariffs and taxes, including trade policies and tariffs regarding China. In 2018, the Office of the U.S. Trade Representative (the "USTR") enacted a tariff of 10% on imports into the U.S. from China, including communications equipment products and components manufactured and imported from China. Since then, additional tariffs have been imposed by the USTR on imports into the United States from China and China has also imposed tariffs on imports into China from the United States. Although the United States and China signed an interim trade agreement in January 2020, the parties are continuing to negotiate a trade agreement.

If tariffs, trade restrictions, or trade barriers are placed on products such as ours by foreign governments, especially China, our costs may increase. We believe we can adjust our supply chain and manufacturing practices to minimize the impact of the tariffs, but our efforts may not be successful, there can be no assurance that we will not experience a disruption in our business related to these or other changes in trade practices and the process of changing suppliers in order to mitigate any such tariff costs could be complicated, time-consuming, and costly.

The U.S. tariffs may also cause customers to delay orders as they evaluate where to take delivery of our products in connection with their efforts to mitigate their own tariff exposure. Such delays create forecasting difficulties for us and increase the risk that orders might be canceled or might never be placed. Current or future tariffs imposed by the U.S. may also negatively impact our customers' sales, thereby causing an indirect negative impact on our own sales. Even in the absence of further tariffs, the related uncertainty and the market's fear of an escalating trade war might cause our distributors and customers to place fewer orders for our products, which could have a material adverse effect on our business, liquidity, financial condition, and/or results of operations.

Given the relatively fluid regulatory environment in China and the United States and uncertainty how the U.S. Administration or foreign governments will act with respect to tariffs, international trade agreements and policies, a trade war, further governmental action related to tariffs or international trade policies, or additional tax or other regulatory changes in the future could directly and adversely impact our financial results and results of operations.

Sales of our 7000 Series of switches generate most of our product revenue, and if we are unable to continue to grow sales of these products, our business, financial condition, results of operations and prospects will suffer.

Historically, we have derived substantially all of our product revenue from sales of our 7000 Series of switches, and we expect to continue to do so for the foreseeable future. We have experienced declines in sales prices for our products, including our 10 Gigabit Ethernet modular and fixed switches. A decline in the price of our 7000 Series of switches and related services, or our inability to increase sales of these products, would harm our business, financial condition, results of operations and prospects more seriously than if we derived significant revenue from a larger variety of product lines and services. Our future financial performance will also depend upon successfully developing and selling next-generation versions of our 7000 Series of switches. If we fail to deliver new products, new features, or new releases that end customers want and that allow us to maintain leadership in what will continue to be a competitive market environment, our business, financial condition, results of operations and prospects will be harmed.

Seasonality may cause fluctuations in our revenue and results of operations.

We operate on a December 31st year end and believe that there are significant seasonal factors which may cause sequential product revenue growth to be greater for the second and fourth quarters of our year than our first and third quarters. We believe that this seasonality results from a number of factors, including the procurement, budgeting and deployment cycles of many of our end customers. Our rapid historical growth may have reduced the impact of seasonal or cyclical factors that might have influenced our business to date. As our increasing size causes our growth rate to slow, seasonal or cyclical variations in our operations may become more pronounced over time and may materially affect our business, financial condition, results of operations and prospects.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.

Assessing our processes, procedures and staffing in order to improve our internal control over financial reporting is an ongoing process. Preparing our financial statements involves a number of complex processes, many of which are done manually and are dependent upon individual data input or review. These processes include, but are not limited to, calculating revenue, inventory costs and the preparation of our statement of cash flows. While we continue to automate our processes and enhance our review controls to reduce the likelihood for errors, we expect that for the foreseeable future many of our processes will remain manually intensive and thus subject to human error.

We may become involved in litigation that may materially adversely affect us.

From time to time, we may become involved in legal proceedings relating to matters incidental to the ordinary course of our business, including patent, copyright, commercial, product liability, employment, class action, whistleblower and other litigation, in addition to governmental and other regulatory investigations and proceedings. Such matters can be time-consuming, divert management’s attention and resources, cause us to incur significant expenses or liability and/or require us to change our business practices. For example, we were previously involved in litigation with Cisco and OptumSoft. Because of the potential risks, expenses and uncertainties of litigation, we may, from time to time, settle disputes, even where we have meritorious claims or defenses. Although we have insurance which may provide coverage for some kinds of claims we may face, that insurance may not cover some kinds of claims or types of relief and may not be adequate in a particular case. Because litigation is inherently unpredictable, we cannot assure you that the results of any of these actions will not have a material adverse effect on our business, financial condition, results of operations and prospects.

For more information regarding the litigation in which we are currently involved, see the “Legal Proceedings” subheading in Note 7. Commitments and Contingencies of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K is incorporated herein by reference.

Assertions by third parties of infringement or other violations by us of their intellectual property rights, or other lawsuits asserted against us, could result in significant costs and substantially harm our business, financial condition, results of operations and prospects.

Patent and other intellectual property disputes are common in the network infrastructure and WiFi industries and have resulted in protracted and expensive litigation for many companies. Many companies in the network infrastructure and WiFi industries, including our competitors and other third parties, as well as non-practicing entities, own large numbers of patents, copyrights, trademarks and trade secrets, which they may use to assert claims of patent infringement, misappropriation, or other violations of intellectual property rights against us. From time to time, they have or may in the future also assert such claims against us, our end customers or channel partners whom we typically indemnify against claims that our products infringe, misappropriate or otherwise violate the intellectual property rights of third parties. For example, we have previously been involved in litigation with Cisco and OptumSoft.

As the number of products and competitors in our market increases and overlaps occur or if we enter into new markets, claims of infringement, misappropriation and other violations of intellectual property rights may increase. Any claim of infringement, misappropriation or other violations of intellectual property rights by a third party, even those without merit, could cause us to incur substantial costs defending against the claim, distract our management from our business and require us to cease use of such intellectual property. In addition, some claims for patent infringement may relate to subcomponents that we purchase from third parties. If these third parties are unable or unwilling to indemnify us for these claims, we could be substantially harmed.

The patent portfolios of most of our competitors are larger than ours. This disparity may increase the risk that our competitors may sue us for patent infringement and may limit our ability to counterclaim for patent infringement or settle through patent cross-licenses. In addition, future assertions of patent rights by third parties, and any resulting litigation, may involve patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own patents may therefore provide little or no deterrence or protection. We cannot assure you that we are not infringing or otherwise violating any third-party intellectual property rights.

The third-party asserters of intellectual property claims may be unreasonable in their demands, or may simply refuse to settle, which could lead to expensive settlement payments, prolonged periods of litigation and related expenses, additional burdens on employees or other resources, distraction from our business, supply stoppages and lost sales.

An adverse outcome of a dispute (including those lawsuits described under the “Legal Proceedings” subheading in Note 7. Commitments and Contingencies of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K) may require us to pay substantial damages or penalties including treble damages if we are found to have willfully infringed a third party’s patents; cease making, licensing, using or importing into the U.S. products or services that are alleged to infringe or misappropriate the intellectual property of others; expend additional development resources to attempt to redesign our products or services or otherwise to develop non-infringing technology, which may not be successful; enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies or intellectual property rights; and indemnify our partners and other third parties. Any damages, penalties or royalty obligations we may become subject to as a result of an adverse outcome, and any third-party indemnity we may need to provide, could harm our business, financial condition, results of operations and prospects. Royalty or licensing agreements, if required or desirable, may be unavailable on terms acceptable to us, or at all, and may require significant royalty payments and other expenditures. Further, there is little or no information publicly available concerning market or fair values for license fees, which can lead to overpayment of license or settlement fees. In addition, some licenses may be non-exclusive, and therefore our competitors may have access to the same technology licensed to us. Suppliers subject to third-party intellectual property claims also may choose or be forced to discontinue or alter their arrangements with us, with little or no advance notice to us. Any of these events could seriously harm our business, financial condition, results of operations and prospects.

In the event that we are found to infringe any third party intellectual property, we could be enjoined, or subject to other remedial orders that would prohibit us, from making, licensing, using or importing into the U.S.

such products or services. In order to resume such activities with respect to any affected products or services, we (or our component suppliers) would be required to develop technical redesigns to this third party intellectual property that no longer infringe the third party intellectual property. In any efforts to develop technical redesigns for these products or services, we (or our component suppliers) may be unable to do so in a manner that does not continue to infringe the third party intellectual property or that is acceptable to our customers. These redesign efforts could be extremely costly and time consuming as well as disruptive to our other development activities and distracting to management. Moreover, such redesigns could require us to obtain approvals from the court or administrative body to resume the activities with respect to these affected solutions. We may not be successful in our efforts to obtain such approvals in a timely manner, or at all. Any failure to effectively redesign our solutions or to obtain timely approval of those redesigns by a court or administrative body may cause a disruption to our product shipments and materially and adversely affect our business, prospects, reputation, results of operations, and financial condition. For example, in two prior investigations brought by Cisco in the International Trade Commission (“ITC”), we were subjected to remedial orders that prohibited us from importing and selling after importation any products the ITC found to infringe Cisco’s patents. As a result, we were required to redesign certain aspects of our products and obtain U.S. Customs and Border Protection’s approval of those redesigns before we could continue to import those products into the United States.

Our standard sales contracts contain indemnification provisions requiring us to defend our end customers against third-party claims, including against infringement of certain intellectual property rights that could expose us to losses which could seriously harm our business, financial conditions, results of operations and prospects.

Under the indemnification provisions of our standard sales contracts, we agree to defend our end customers and channel partners against third-party claims asserting infringement of certain intellectual property rights, which may include patents, copyrights, trademarks or trade secrets, and to pay judgments entered on such claims. An adverse ruling in such litigation may potentially expose us to claims in the event that claims are brought against our customers based on the ruling and we are required to indemnify such customers.

Our exposure under these indemnification provisions is frequently limited to the total amount paid by our end customer under the agreement. However, certain agreements include indemnification provisions that could potentially expose us to losses in excess of the amount received under the agreement. Any of these events, including claims for indemnification, could seriously harm our business, financial condition, results of operations and prospects.

If we are unable to protect our intellectual property rights, our competitive position could be harmed or we could be required to incur significant expenses to enforce our rights.

We depend on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws and confidentiality agreements with employees and third parties, all of which offer only limited protection.

The process of obtaining patent protection is expensive and time-consuming, and we may not be able to prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may choose not to seek patent protection for certain innovations and may choose not to pursue patent protection in certain jurisdictions. Further, we do not know whether any of our pending patent applications will result in the issuance of patents or whether the examination process will require us to narrow our claims. To the extent that additional patents are issued from our patent applications, which is not certain, they may be contested, circumvented or invalidated in the future. Moreover, the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages, and, as with any technology, competitors may be able to develop similar or superior technologies to our own now or in the future. In addition, we rely on confidentiality or license agreements with third parties in connection with their use of our products and technology. There is no guarantee that such parties will abide by the terms of such agreements or that we will be able to adequately enforce our rights, in part because we rely on “shrink-wrap” licenses in some instances.

We have not registered our trademarks in all geographic markets. Failure to secure those registrations could adversely affect our ability to enforce and defend our trademark rights and result in indemnification claims. Further, any claim of infringement by a third party, even those claims without merit, could cause us to incur substantial costs defending against such claim, could divert management attention from our business and could require us to cease use of such intellectual property in certain geographic markets.

Despite our efforts, the steps we have taken to protect our proprietary rights may not be adequate to preclude misappropriation of our proprietary information or infringement of our intellectual property rights, and our ability to police such misappropriation or infringement is uncertain, particularly in countries outside of the United States.

Detecting and protecting against the unauthorized use of our products, technology and proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. Such litigation could result in substantial costs and diversion of management resources, either of which could harm our business, financial condition, results of operations and prospects, and there is no guarantee that we would be successful. Furthermore, many of our current and potential competitors have the ability to dedicate substantially greater resources to protecting their technology or intellectual property rights than we do. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property, which could result in a substantial loss of our market share.

We rely on the availability of licenses to third-party software and other intellectual property.

Many of our products and services include software or other intellectual property licensed from third parties, and we otherwise use software and other intellectual property licensed from third parties in our business. This exposes us to risks over which we may have little or no control. For example, a licensor may have difficulties keeping up with technological changes or may stop supporting the software or other intellectual property that it licenses to us. Also, it will be necessary in the future to renew licenses, expand the scope of existing licenses or seek new licenses, relating to various aspects of these products and services or otherwise relating to our business, which may result in increased license fees. These licenses may not be available on acceptable terms, if at all. In addition, a third party may assert that we or our end customers are in breach of the terms of a license, which could, among other things, give such third party the right to terminate a license or seek damages from us, or both. The inability to obtain or maintain certain licenses or other rights or to obtain or maintain such licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could result in delays in releases of products and services and could otherwise disrupt our business, until equivalent technology can be identified, licensed or developed, if at all, and integrated into our products and services or otherwise in the conduct of our business. Moreover, the inclusion in our products and services of software or other intellectual property licensed from third parties on a nonexclusive basis may limit our ability to differentiate our products from those of our competitors. Any of these events could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our products contain third-party open source software components, and failure to comply with the terms of the underlying open source software licenses could restrict our ability to sell our products.

Our products contain software modules licensed to us by third-party authors under “open source” licenses. Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software that we use. If we combine our software with open source software in a certain manner, we could, under certain open source licenses, be required to release portions of the source code of our software to the public. This would allow our competitors to create similar products with lower development effort and time and ultimately could result in a loss of product sales for us.

Although we monitor our use of open source software to avoid subjecting our products to conditions we do not intend, the terms of many open source licenses have not been interpreted by U.S. courts, and these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our products. Moreover, we cannot assure you that our processes for controlling our use of open source software in our products will be effective. If we are held to have breached the terms of an open source software license, we could be required to seek licenses from third parties to continue offering our products on terms that are not economically feasible, to re-engineer our products, to discontinue the sale of our products if re-engineering could not be accomplished on a timely basis or to make generally available, in source code form, our proprietary code, any of which could adversely affect our business, financial condition, results of operations and prospects.

Our products must interoperate with operating systems, software applications and hardware that is developed by others, and if we are unable to devote the necessary resources to ensure that our products interoperate with such software and hardware, we may lose or fail to increase market share and experience a weakening demand for our products.

Generally, our products comprise only a part of the data center and must interoperate with our end customers' existing infrastructure, specifically their networks, servers, software and operating systems, which may be manufactured by a wide variety of vendors and original equipment manufacturers, or OEMs. Our products must comply with established industry standards in order to interoperate with the servers, storage, software and other networking equipment in the data center such that all systems function efficiently together. We depend on the vendors of servers and systems in a data center to support prevailing industry standards. Often, these vendors are significantly larger and more influential in driving industry standards than we are. Also, some industry standards may not be widely adopted or implemented uniformly, and competing standards may emerge that may be preferred by our end customers.

In addition, when new or updated versions of these software operating systems or applications are introduced, we must sometimes develop updated versions of our software so that our products will interoperate properly. We may not accomplish these development efforts quickly, cost-effectively or at all. These development efforts require capital investment and the devotion of engineering resources. If we fail to maintain compatibility with these systems and applications, our end customers may not be able to adequately utilize our products, and we may lose or fail to increase market share and experience a weakening in demand for our products, among other consequences, which would adversely affect our business, financial condition, results of operations and prospects.

We provide access to our software and other selected source code to certain partners, which creates additional risk that our competitors could develop products that are similar to or better than ours.

Our success and ability to compete depend substantially upon our internally developed technology, which is incorporated in the source code for our products. We seek to protect the source code, design code, documentation and other information relating to our software, under trade secret, patent and copyright laws. However, we have chosen to provide access to selected source code of our software to several of our partners for co-development, as well as for open APIs, formats and protocols. Though we generally control access to our source code and other intellectual property and enter into confidentiality or license agreements with such partners as well as with our employees and consultants, this combination of procedural and contractual safeguards may be insufficient to protect our trade secrets and other rights to our technology. Our protective measures may be inadequate, especially because we may not be able to prevent our partners, employees or consultants from violating any agreements or licenses we may have in place or abusing their access granted to our source code. Improper disclosure or use of our source code could help competitors develop products similar to or better than ours.

We expect our gross margins to vary over time and to be adversely affected by numerous factors.

We expect our gross margins to vary over time and the gross margins we have achieved in recent years may not be sustainable and may be adversely affected in the future by numerous factors, including:

- changes in end-customer, geographic or product mix, including mix of configurations within each product group;
- increased price competition and changes in the actions of our competitors or their pricing strategies;
- introduction of new products, including products with price-performance advantages and new business models including the sale and delivery of more software and subscription solutions;
- increases in material or component costs including such increases caused by any restriction from sourcing components and manufacturing products internationally;
- our ability to reduce production costs;

- entry into new markets or growth in lower margin markets, including markets with different pricing and cost structures, through acquisitions or internal development;
- entry in markets with different pricing and cost structures;
- pricing discounts, particularly to our large end customers;
- increases in material costs in the event we are restricted from sourcing components and manufacturing products internationally;
- costs associated with defending intellectual property infringement and other claims and the potential outcomes of such disputes;
- excess inventory and inventory holding charges;
- obsolescence charges;
- changes in shipment volume;
- the timing of revenue recognition and revenue deferrals;
- increased cost, loss of cost savings or dilution of savings due to changes in component pricing or charges incurred due to inventory holding periods if parts ordering does not correctly anticipate product demand or if the financial health of either contract manufacturers or suppliers deteriorates;
- increased costs arising from the tariffs imposed by the U.S. on goods from other countries and tariffs imposed by other countries on U.S. goods, including the tariffs recently implemented and additional tariffs that have been proposed by the U.S. government on various imports from China, Canada, Mexico and the E.U. and by the governments of these jurisdictions on certain U.S. goods;
- lower than expected benefits from value engineering;
- changes in distribution channels;
- increased warranty costs; and
- our ability to execute our strategy and operating plans.

We determine our operating expenses largely on the basis of anticipated revenues 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. Failure to sustain or improve our gross margins reduces our profitability and may have a material adverse effect on our business and stock price.

Our sales cycles can be long and unpredictable, and our sales efforts require considerable time and expense. As a result, our sales and revenue are difficult to predict and may vary substantially from period to period, which may cause our results of operations to fluctuate significantly.

The timing of our sales and revenue recognition is difficult to predict because of the length and unpredictability of our products' sales cycles. A sales cycle is the period between initial contact with a prospective end customer and any sale of our products. End-customer orders often involve the purchase of multiple products. These orders are complex and difficult to complete because prospective end customers generally consider a number of factors over an extended period of time before committing to purchase the products and solutions we sell. End customers, especially in the case of our large end customers, often view the purchase of our products as a significant and strategic decision and require considerable time to evaluate, test and qualify our products prior to making a purchase decision and placing an order. The length of time that end customers devote to their evaluation, contract negotiation and budgeting processes varies significantly. Our products' sales cycles can be lengthy in certain cases, especially with respect to our prospective large end customers. During the sales cycle, we expend significant time and money on sales and marketing activities and make investments in evaluation equipment, all of which lower our operating margins, particularly if no sale occurs. Even if an end customer decides to purchase our products, there are many factors affecting the timing of our recognition of revenue, which makes our revenue difficult to forecast. For example, there may be unexpected delays in an end customer's internal procurement processes, particularly for some of our larger end customers for which our products represent a very small percentage of their total procurement activity. There are many other factors specific to end customers that contribute to the timing of their purchases and the variability of our revenue recognition, including the strategic importance of a particular project to an end customer, budgetary constraints and changes in their personnel.

Even after an end customer makes a purchase, there may be circumstances or terms relating to the purchase that delay our ability to recognize revenue from that purchase. In addition, the significance and timing of our product enhancements, and the introduction of new products by our competitors, may also affect end customers' purchases. For all of these reasons, it is difficult to predict whether a sale will be completed, the particular period in which a sale will be completed or the period in which revenue from a sale will be recognized. If our sales cycles lengthen, our revenue could be lower than expected, which would have an adverse effect on our business, financial condition, results of operations and prospects.

Our business is subject to the risks of warranty claims, product returns, product liability and product defects.

Our products are very complex and despite testing prior to their release, they have contained and may contain undetected defects or errors, especially when first introduced or when new versions are released. Product defects or errors could affect the performance of our products and could delay the development or release of new products or new versions of products, adversely affect our reputation and our end customers' willingness to buy products from us and adversely affect market acceptance or perception of our products. Real or perceived errors, failures or bugs in our products could cause us to lose revenue or market share, increase our service costs, cause us to incur substantial costs in redesigning the products, cause us to lose significant end-customers, subject us to liability for damages and divert our resources from other tasks, any one of which could materially and adversely affect our business, results of operations and financial condition.

Additionally, real or perceived errors, failures or bugs in our products could result in claims by end customers for losses that they sustain. If end customers make these types of claims, we may be required, or may choose, for end-customer relations or other reasons, to expend additional resources in order to address the problem. We may also be required to repair or replace such products or provide a refund for the purchase price for such products. Liability provisions in our standard terms and conditions of sale, and those of our resellers and distributors, may not be enforceable under some circumstances or may not fully or effectively protect us from end-customer claims and related liabilities and costs, including indemnification obligations under our agreements with end customers, resellers and distributors. The sale and support of our products also entail the risk of product liability claims. Even claims that ultimately are unsuccessful could result in expenditures of funds in connection with litigation and divert management's time and other resources.

Levels or types of insurance coverage purchased may not adequately cover claims or liabilities.

We maintain insurance to protect against certain types of claims associated with the use of our products, operations, property damage, casualty and other risks, but our insurance coverage may not adequately cover all claims or penalties. Depending on our assumptions regarding level of risk, availability, cost and other considerations, we purchase differing amounts of insurance from time to time and in various locations. Our insurance coverage is subject to deductibles, exclusions and policy limits that may require us to self-insure certain types of claims or claims in certain countries. If our level of insurance is inadequate or a loss isn't covered by insurance, we could be required to pay unpredictable and substantial amounts that could have a substantial negative impact on our financial results or operations.

In addition to our own direct sales force, we rely on distributors, systems integrators and value-added resellers to sell our products, and our failure to effectively develop, manage or prevent disruptions to our distribution channels and the processes and procedures that support them could cause a reduction in the number of end customers of our products.

Our future success is highly dependent upon maintaining our relationships with distributors, systems integrators and value-added resellers and establishing additional sales channel relationships. We anticipate that sales of our products to a limited number of channel partners will continue to account for a material portion of our total product revenue for the foreseeable future. We provide our channel partners with specific training and programs to assist them in selling our products, but these steps may not be effective. In addition, our channel partners may be unsuccessful in marketing, selling and supporting our products and services. If we are unable to develop and maintain effective sales incentive programs for our channel partners, we may not be able to incentivize these partners to sell our products to end customers. These partners may have incentives to promote our competitors' products to the detriment of our own or may cease selling our products altogether. One of our channel partners could elect to consolidate or enter into a strategic partnership with one of our competitors, which could reduce or eliminate our future opportunities with that channel partner. Our agreements with our channel partners may generally be terminated for any reason by either party with advance notice. We may be unable to retain these channel partners or secure additional or replacement channel partners. The loss of one or more of our significant channel partners requires extensive training, and any new or expanded relationship with a channel partner may take several months or more to achieve productivity.

Where we rely on the channel partners for sales of our products, we may have little or no contact with the ultimate users of our products that purchase through such channel partners, thereby making it more difficult for us to establish brand awareness, ensure proper delivery and installation of our products, service ongoing end-customer requirements, estimate end-customer demand and respond to evolving end-customer needs. In addition, our channel partner sales structure could subject us to lawsuits, potential liability and reputational harm if, for example, any of our channel partners misrepresent the functionality of our products or services to end customers, fail to comply with their contractual obligations or violate laws or our corporate policies. If we fail to effectively manage our existing sales channels, or if our channel partners are unsuccessful in fulfilling the orders for our products, if we are unable to enter into arrangements with, and retain a sufficient number of, high-quality channel partners in each of the regions in which we sell products and keep them motivated to sell our products, our ability to sell our products and our business, financial condition, results of operations and prospects will be harmed.

A portion of our revenue is generated by sales to government entities, which are subject to a number of challenges and risks.

We anticipate increasing our sales efforts to U.S. and foreign, federal, state and local governmental end customers in the future. Sales to government entities are subject to a number of risks. Selling to government entities can be highly competitive, expensive and time consuming, often requiring significant upfront time and expense without any assurance that these efforts will generate a sale. The substantial majority of our sales to date to government entities have been made indirectly through our channel partners. Government certification requirements for products like ours may change and, in doing so, restrict our ability to sell into the government sector until we have attained revised certifications. Government demand and payment for our products and services may be affected by public sector budgetary cycles and funding authorizations, with funding reductions or delays adversely affecting public sector demand for our products and services. Government entities may have statutory, contractual or other legal rights to terminate contracts with our distributors and resellers for convenience or due to a default, and any such termination may adversely impact our future business, financial condition, results of operations and prospects. Selling to government entities may also require us to comply with various regulations that are not applicable to sales to non-government entities, including regulations that may relate to pricing, classified material and other matters. Complying with such regulations may also require us to put in place controls and procedures to monitor compliance with the applicable regulations that may be costly or not possible. We are not currently certified to perform work under classified contracts with government entities. Failure to comply with any such regulations could adversely affect our business, prospects, results of operations and financial condition. Governments routinely investigate and audit government contractors' administrative processes, and any unfavorable audit could result in the government ceasing to buy our products and services, a reduction of revenue, fines or civil or criminal liability if the audit uncovers improper or illegal activities, any of which could materially adversely affect our business, financial condition, results of operations and prospects. The U.S. government may require certain products that it purchases to be manufactured in the U.S. and other relatively high-cost manufacturing locations, and we may not manufacture all products in locations that meet these requirements. Any of these and other circumstances could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may invest in or acquire other businesses which could require significant management attention, disrupt our business, dilute stockholder value and adversely affect our business, financial condition, results of operations and prospects.

As part of our business strategy, we may make investments in complementary companies, products or technologies which could involve licenses, additional channels of distribution, discount pricing or investments in or acquisitions of other companies. For example, we completed the acquisition of Big Switch Networks in February, 2020, the acquisition of Mojo in August 2018 and the acquisition of Metamako in September 2018. However, we do not have significant experience in making investments in other companies nor had we made any acquisitions prior to those of Big Switch Networks, Mojo and Metamako, and as a result, our ability as an organization to evaluate and/or complete investments or acquire and integrate other companies, products or technologies in a successful manner is unproven. We may not be able to find suitable investment or acquisition candidates, and we may not be able to complete such investments or acquisitions on favorable terms, if at all. If we do complete investments or acquisitions, we may not ultimately strengthen our competitive position or achieve our goals, and any investments or acquisitions we complete could be viewed negatively by our end customers, investors and securities analysts.

In addition, investments and acquisitions may result in unforeseen operating difficulties and expenditures. For example, if we are unsuccessful at integrating any acquisitions or retaining key talent from those acquisitions, or the technologies associated with such acquisitions, into our company, the business, financial condition, results of operations and prospects of the combined company could be adversely affected. We may have difficulty retaining the customers of any acquired business or the acquired technologies or research and development expectations may prove unsuccessful. Any integration process may require significant time and resources, and we may not be able to manage the process successfully. Acquisitions may also disrupt our ongoing business, divert our resources and require significant management attention that would otherwise be available for development of our business. We may not successfully evaluate or utilize the acquired technology or personnel or accurately forecast the financial effects of an acquisition transaction, including accounting charges. Any acquisition or investment could expose us to unknown liabilities. Moreover, we cannot assure you that the anticipated benefits of any acquisition or investment would be realized or that we would not be exposed to unknown liabilities. We may have to pay cash, incur debt or issue equity securities to pay for any such investment or acquisition, each of which could adversely affect our financial condition or the market price of our common stock. The sale of equity or issuance of debt to finance any such acquisitions could result in dilution to our stockholders. The incurrence of indebtedness would result in increased fixed obligations and could also include covenants or other restrictions that would impede our ability to manage our operations. Moreover, if the investment or acquisition becomes impaired, we may be required to take an impairment charge, which could adversely affect our financial condition or the market price of our common stock.

Furthermore, through acquisitions, we continue to expand into new markets and new market segments and we may experience challenges in entering into new market segments for which we have not previously manufactured and sold products, including facing exposure to new market risks, difficulty achieving expected business results due to a lack of experience in new markets, products or technologies or the initial dependence on unfamiliar distribution partners or vendors.

If we needed to raise additional capital to expand our operations, invest in new products or for other corporate purposes, our failure to do so on favorable terms could reduce our ability to compete and could harm our business, financial condition, results of operations and prospects.

We expect that our existing cash and cash equivalents, will be sufficient to meet our anticipated cash needs for the foreseeable future. If we did need to raise additional funds to expand our operations, invest in new products or for other corporate purposes, we may not be able to obtain additional debt or equity financing on favorable terms, if at all. If we raise additional equity financing, our stockholders may experience significant dilution of their ownership interests, and the market price of our common stock could decline. Furthermore, if we engage in debt financing, the holders of such debt would have priority over the holders of common stock, and we may be required to accept terms that restrict our ability to incur additional indebtedness or impose other restrictions on our business. We may also be required to take other actions that would otherwise be in the interests of the debt holders, including maintaining specified liquidity or other ratios, any of which could harm our business, financial condition, results of operations and prospects. If we need additional capital and cannot raise it on acceptable terms, if at all, we may not be able to, among other things:

- evolve or enhance our products and services;
- continue to expand our sales and marketing and research and development organizations;

- acquire complementary technologies, products or businesses;
- expand operations in the U.S. or internationally;
- hire, train and retain employees; or
- respond to competitive pressures or unanticipated working capital requirements.

Our failure to do any of these things could seriously harm our business, financial condition, results of operations and prospects.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as described in Part II Item 7 of "Management's Discussion and Analysis of Financial Condition and Results of Operations," the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include those related to revenue recognition, inventory valuation and contract manufacturer/supplier liabilities, income taxes and loss contingencies. If our assumptions change or if actual circumstances differ from those in our assumptions, our results of operations may be adversely affected and may fall below the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

We are exposed to the credit risk of our channel partners and some of our end customers, which could result in material losses.

Most of our sales are on an open credit basis, with standard payment terms of 30 days in the United States and, because of local customs or conditions, longer in some markets outside the U.S. We monitor individual end-customer payment capability in granting such open credit arrangements, seek to limit such open credit to amounts we believe the end customers can pay and maintain reserves we believe are adequate to cover exposure for doubtful accounts. We are unable to recognize revenue from shipments until the collection of those amounts becomes reasonably assured. Any significant delay or default in the collection of significant accounts receivable could result in an increased need for us to obtain working capital from other sources, possibly on worse terms than we could have negotiated if we had established such working capital resources prior to such delays or defaults. Any significant default could adversely affect our results of operations and delay our ability to recognize revenue.

A material portion of our sales is derived through our distributors, systems integrators and value-added resellers. Some of our distributors, systems integrators and value-added resellers may experience financial difficulties, which could adversely affect our collection of accounts receivable. Distributors tend to have more limited financial resources than other systems integrators, value-added resellers and end customers. Distributors represent potential sources of increased credit risk because they may be less likely to have the reserve resources required to meet payment obligations. Our exposure to credit risks of our channel partners may increase if our channel partners and their end customers are adversely affected by global or regional economic conditions. One or more of these channel partners could delay payments or default on credit extended to them, either of which could materially adversely affect our business, financial condition, results of operations and prospects.

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

Our sales contracts are primarily denominated in U.S. dollars, and therefore substantially all of our revenue is not subject to foreign currency risk. However, a strengthening U.S. dollar could increase the real cost of our products to our end customers outside of the U.S., which could adversely affect our business, financial condition, results of operations and prospects. In addition, a decrease in the value of the U.S. dollar relative to foreign currencies could increase our product and operating costs in foreign locations. Further, an increasing portion of our operating expenses is incurred outside the U.S., is denominated in foreign currencies and is subject to fluctuations due to changes in foreign currency exchange rates. If we are not able to successfully hedge against the risks associated with the currency fluctuations, our business, financial condition, results of operations and prospects could be adversely affected.

Our business is subject to the risks of earthquakes, fire, power outages, floods, health epidemics and other catastrophic events and to interruption by manmade problems such as terrorism.

Our corporate headquarters and the operations of our key manufacturing vendors, logistics providers and partners, as well as many of our customers, are located in areas exposed to risks of natural disasters such as earthquakes and tsunamis, including the San Francisco Bay Area, Japan and Taiwan. A significant natural disaster, such as an earthquake, tsunami, fire or a flood, or other catastrophic event such as a disease outbreak, could have a material adverse effect on our or their business, which could in turn materially affect our financial condition, results of operations and prospects.

For example, in December 2019, a strain of coronavirus was reported to have surfaced in Wuhan, China. Any health epidemic in Asia could have a material adverse effect on our ability to obtain components for our products that are supplied from Asia or to manufacture our products in Asia. Any such disruption of our suppliers or our contract manufacturers would likely impact our sales and operating results. In addition, a health epidemic could adversely affect the economies of many countries, resulting in an economic downturn that could affect demand for our products and likely impact our operating results.

Additionally, in the event our service providers' information technology systems or manufacturing or logistics abilities are hindered by any of the events discussed above, shipments could be delayed, which could result in missed financial targets, such as revenue and shipment targets, for a particular quarter. Further, if a natural disaster occurs in a region from which we derive a significant portion of our revenue, end customers in that region may delay or forego purchases of our products, which may materially and adversely affect our business, financial condition, results of operations and prospects. In addition, acts of terrorism could cause disruptions in our business or the business of our manufacturers, logistics providers, partners or end customers or the economy as a whole. Given our typical concentration of sales at each quarter end, any disruption in the business of our manufacturers, logistics providers, partners or end customers that affects sales at the end of our quarter could have a particularly significant adverse effect on our quarterly results. All of the aforementioned risks may be augmented if our disaster recovery plans and those of our manufacturers, logistics providers or partners prove to be inadequate. To the extent that any of the above results in delays or cancellations of end-customer orders, or delays in the manufacture, deployment or shipment of our products, our business, financial condition, results of operations and prospects would be adversely affected.

Breaches of our cybersecurity systems, or other security breaches or incidents with respect to networks, systems, or data, could degrade our ability to conduct our business operations and deliver products and services to our customers, delay our ability to recognize revenue, compromise the integrity of our software products and our networks, systems, and data, result in significant data losses and the theft of our intellectual property, damage our reputation, expose us to liability to third parties and require us to incur significant additional costs to maintain the security of our networks and data.

We increasingly depend upon our IT systems to conduct virtually all of our business operations, ranging from our internal operations and product development activities to our marketing and sales efforts and communications with our customers and business partners. Computer programmers or other persons or organizations may attempt to penetrate our network security, or that of our website or systems, and access or obtain confidential, personal, or otherwise sensitive or proprietary information about us or our customers or cause interruptions of our service. Because the techniques used to access or sabotage networks and systems change frequently and may not be recognized until launched against a target, we may be unable to anticipate these techniques. In addition, our software and sophisticated hardware and operating system software and applications that we produce or procure from third parties may contain defects in design or manufacture, including "bugs" and other problems that could cause the software or applications to fail or otherwise to unexpectedly interfere with the operation of the system. We have also outsourced a number of our business functions to third-parties, including our manufacturers, logistics providers, and cloud service providers, and our business operations also depend, in part, on the success of these third parties' own cybersecurity measures. Similarly, we rely upon distributors, resellers and system integrators to sell our products and our sales operations depend, in part, on the reliability of their cybersecurity measures. Additionally, we depend upon our employees to appropriately handle confidential data and deploy our IT resources with the use of security measures designed to prevent exposure of our network systems to security breaches and the loss of data. We and all of the aforementioned third parties also face the risk of malicious software, phishing schemes and other social engineering methods, fraud and other malfeasance, and intentional or negligent acts or omissions of employees and contractors. Accordingly, if our cybersecurity systems and measures or those of any of the aforementioned third parties fail to protect against sophisticated cyber attacks, the mishandling of data by employees and contractors, or any other means of unauthorized access to, or use of, networks, systems, or data that we or such third parties maintain, operate, or process, our ability to conduct our business effectively could be damaged in a number of ways, including:

- sensitive data regarding our business or our customers, including intellectual property and other proprietary data, could be stolen;
- our electronic communications systems, including email and other methods, or other systems, could be disrupted, and our ability to conduct our business operations could be seriously damaged until such systems can be restored, which we may be unable to achieve in a prompt manner or at all;
- our ability to process customer orders and electronically deliver products and services could be degraded, and our distribution channels could be disrupted, resulting in delays in revenue recognition;
- defects and security vulnerabilities could be introduced into our software, thereby damaging the reputation and perceived reliability and security of our products and potentially making the data systems of our customers vulnerable to further data loss and cyber incidents; and
- personal data of our customers, employees, contractors, and business partners could be accessed, obtained, or used without authorization, or otherwise compromised.

Should any of the above events occur, or be perceived to occur, we could be subject to significant claims for liability from our customers and others and regulatory investigations and actions from governmental agencies, and we could be required to expend significant capital and other resources to remediate and otherwise address any data security incident or breach, including to notify individuals, entities, or regulatory bodies and to implement measures in an effort to prevent further breaches or incidents. In addition, our ability to protect our intellectual property rights could be compromised and our reputation and competitive position could be significantly harmed. Also, the regulatory and contractual actions, litigations, investigations, fines, penalties and liabilities relating to data breaches that result in losses of, damage or destruction of, or unauthorized access to or acquisition of, credit card information or other personal or sensitive data of users of our services can be significant in terms of fines and reputational impact and necessitate changes to our business operations that may be disruptive to us. Additionally, we could incur significant costs in order to upgrade our cybersecurity systems and other measures in an effort to prevent security breaches and other incidents. Even the perception of inadequate security may damage our reputation and negatively impact our ability to win new customers and retain existing customers. Consequently, our financial performance and results of operations could be adversely affected by any of the foregoing types of security breaches, incidents, vulnerabilities, or other matters, or the perception that any of them have occurred.

In addition, we cannot assure that any limitation of liability provisions in our customer agreements, contracts with third-party vendors and service providers or other contracts would be enforceable or adequate or would otherwise protect us from any liabilities or damages with respect to any particular claim relating to a security breach or other security-related matter. We also cannot be certain that our insurance coverage will be adequate for data handling or data security liabilities actually incurred, that insurance will continue to be available to us on economically reasonable terms, or at all, or that any future claim will not be excluded or otherwise be denied coverage by any insurer. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our reputation, financial condition and operating results.

We believe our long-term value as a company will be greater if we focus primarily on growth instead of profitability.

Our business strategy is to focus primarily on our long-term growth. As a result, our profitability in any given period may be lower than it would be if our strategy was to maximize short-term profitability. Expenditures on research and development, sales and marketing, infrastructure and other such investments may not ultimately grow our business, prospects or cause long term profitability. For example, in order to support our strong growth, we have accelerated our investment in infrastructure, such as enterprise resource planning software and other technologies to improve the efficiency of our operations. As a result, we expect our levels of operating profit could decline in the short to medium term. If we are ultimately unable to achieve or maintain profitability at the level anticipated by analysts and our stockholders, the market price of our common stock may decline.

We may not generate positive returns on our research and development investments.

Developing our products is expensive, and the investment in product development may involve a long payback cycle. For the years ended December 31, 2019, 2018 and 2017, our research and development expenses were $462.8 million, or approximately 19.2% of our revenue, $442.5 million, or approximately 20.6% of our revenue, and $349.6 million, or approximately 21.2% of our revenue, respectively. We expect to continue to invest heavily in software development in order to expand the capabilities of our cloud networking platform, introduce new products and features and build upon our technology leadership. We believe one of our greatest strengths lies in the speed of our product development efforts. By investing in research and development, we believe we will be well positioned to take advantage of our large market opportunity. We expect that our results of operations will be impacted by the timing and size of these investments. These investments may take several years to generate positive returns, if ever.

Changes in our income taxes or our effective tax rate, the enactment of new tax laws or changes in the application of existing tax laws of various jurisdictions or adverse outcomes resulting from examination of our income tax returns could adversely affect our results.

Our income taxes are subject to volatility and could be adversely affected by several factors, many of which are outside of our control, including earnings that are lower than anticipated in countries that have lower tax rates and higher than anticipated in countries that have higher tax rates; our ability to generate and use tax attributes; changes in the valuation of our deferred tax assets and liabilities; expiration of or lapses in the federal research and development (“R&D”) tax credit laws; transfer pricing adjustments, including the effect of acquisitions on our inter-company R&D cost sharing arrangement and legal structure; tax effects of nondeductible compensation, including certain stock-based compensation; tax costs related to inter-company realignments; changes in accounting principles; adverse tax consequences, including imposition of withholding or other taxes on payments by subsidiaries or customers; a change in our decision to indefinitely reinvest certain foreign earnings or changes in tax laws and regulations, including the Tax Act enacted on December 22, 2017 and the new U.S. changes to the taxation of earnings of our foreign subsidiaries.

Significant judgment is required to evaluate our tax positions and determine our 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 income taxes or additional paid-in capital. In addition, tax laws are dynamic and subject to change as evidenced by the Tax Act. As new laws are passed and new interpretations of the law are issued or applied, our income taxes may be affected. Changes to U.S. tax laws, including taxation of earnings outside of the U.S., the introduction of a base erosion anti-abuse tax and the disallowance of tax deductions for certain book expense, as well as changes to U.S. tax laws that may be enacted in the future, could impact the tax treatment of our earnings, as well as cash and cash equivalent balances we currently maintain. Furthermore, due to shifting economic and political conditions, tax policies or rates in various jurisdictions may be subject to significant change. For example, on June 7, 2019, the Court of Appeals for the Ninth Circuit issued an opinion on Altera Corporation and Subsidiaries vs. Commissioner on Internal Revenue (the "Opinion"). The Opinion overturned the Tax Court decision and ruled in favor of the Commissioner validating the regulations requiring stock-based compensation to be included in a cost sharing arrangement. As a result of the Opinion, we have changed our position and determined it is more likely than not that these regulations are valid and recognized an income tax expense of $9.8 million for the cumulative effect of this position in the period ending June 30, 2019.

Further, we are subject to the examination of our income tax returns by the Internal Revenue Service and other tax authorities. Audits by the Internal Revenue Service or other tax authorities are subject to inherent uncertainties and could result in unfavorable outcomes, including potential fines or penalties. As we operate in numerous taxing jurisdictions, the application of tax laws can be subject to diverging and sometimes conflicting interpretations by tax authorities of these jurisdictions. The expense of defending and resolving such an audit may be significant. The amount of time to resolve an audit is also unpredictable and may divert management's attention from our business operations. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our income taxes. We cannot assure you that fluctuations in our provision for income taxes or our effective tax rate, the enactment of new tax laws or changes in the application or interpretation of existing tax laws or adverse outcomes resulting from examination of our tax returns by tax authorities will not have an adverse effect on our business, financial condition, results of operations and prospects.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified board members.

As a public company, we are subject to the reporting and corporate governance requirements of the Exchange Act, the listing requirements of the New York Stock Exchange and other applicable securities rules and regulations, including the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and the Dodd-Frank Act. Compliance with these rules and regulations and the attendant responsibilities of management and the board, may make it more difficult to attract and retain executive officers and members of our board of directors, particularly to serve on our Audit Committee and Compensation Committee, has increased our legal and financial compliance costs, and increased demand on our systems and resources. Among other things, the Exchange Act requires that we file annual, quarterly and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal control over financial reporting. In addition, if our internal control over financial reporting is not effective as defined under Section 404, we could be subject to one or more investigations or enforcement actions by state or federal regulatory agencies, stockholder lawsuits or other adverse actions requiring us to incur defense costs, pay fines, settlements or judgments. As a result, management's attention may be diverted from other business concerns, which could harm our business, financial condition, results of operations and prospects.

In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, and increasing legal and financial compliance costs. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations, and standards, and this investment may result in increased general and administrative expense and a diversion of management's time and attention from business activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies, regulatory authorities may initiate legal proceedings against us and our business and prospects may be harmed.

In addition, as a result of our disclosure obligations as a public company, we may be under pressure to focus on short-term results, which may adversely affect our ability to undertake certain actions which could improve our long-term financial performance.

Failure to comply with governmental laws and regulations could harm our business, financial condition, results of operations and prospects.

Our business is subject to regulation by various federal, state, local and foreign governmental agencies, including agencies responsible for monitoring and enforcing employment and labor laws, workplace safety, product safety, environmental laws, consumer protection laws, privacy, data protection, anti-bribery laws, import/export controls, federal securities laws and tax laws and regulations. In certain jurisdictions, these regulatory requirements may be more stringent than those in the United States. For example, the European Union, or EU, has implemented the General Data Protection Regulation ("GDPR"). The GDPR provides for substantial obligations relating to the handling, storage and other processing of data relating to individuals and administrative fines for violations, which can be up four percent of the previous year's annual revenue or €20 million, whichever is higher. Several jurisdictions have passed new laws and regulations relating to privacy, data protection, and other matters, and other jurisdictions are considering imposing additional restrictions. These laws continue to develop and may be inconsistent from jurisdiction to jurisdiction. For example, the California Consumer Privacy Act ("CCPA") became operative on January 1, 2020. The CCPA requires covered companies to, among other things, provide new disclosures to California consumers, and affords such consumers new abilities to opt-out of certain sales of personal information. Certain aspects of the CCPA and its interpretation remain uncertain and are likely to remain uncertain for an extended period, and we cannot predict the full impact of the CCPA on our business or operations. Complying with emerging and changing legal and regulatory requirements relating to privacy, data protection and other matters may cause us to incur costs or require us to change our business practices, which could harm our business, financial condition, results of operations and prospects.

From time to time, we may receive inquiries from governmental agencies or we may make voluntary disclosures regarding our compliance with applicable governmental regulations or requirements relating to various matters, including import/export controls, federal securities laws and tax laws and regulations which could lead to formal investigations. Actual or alleged noncompliance with applicable laws, regulations or other governmental requirements could lead to regulatory investigations, enforcement actions, and other proceedings, private claims and litigation, and potentially may subject us to sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties or injunctions. If any governmental fines, penalties, or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, financial condition, results of operations and prospects could be materially adversely affected. In addition, responding to any investigation, action or other proceeding will likely result in a significant diversion of management's attention and resources and an increase in professional fees. Enforcement actions, investigations, and fines, penalties, and other sanctions could harm our business, financial condition, results of operations and prospects.

We are subject to governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate these controls.

Our products may be subject to various export controls and because we incorporate encryption technology into certain of our products, certain of our products may be exported from various countries only with the required export license or through an export license exception. If we were to fail to comply with the applicable export control laws, customs regulations, economic sanctions or other applicable laws, we could be subject to monetary damages or the imposition of restrictions which could be material to our business, operating results and prospects and could also harm our reputation. Further, there could be criminal penalties for knowing or willful violations, including incarceration for culpable employees and managers. Obtaining the necessary export license or other authorization for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities. Furthermore, certain export control and economic sanctions laws prohibit the shipment of certain products, technology, software and services to embargoed countries and sanctioned governments, entities, and persons. Even though we take precautions to ensure that we and our channel partners comply with all relevant regulations, any failure by us or our channel partners to comply with such regulations could have negative consequences, including reputational harm, government investigations and penalties.

As our company grows we also continue developing procedures and controls to comply with export control and other applicable laws. Historically, we have had some instances where we inadvertently have not fully complied with certain export control laws, but we have disclosed them to, and implemented corrective actions with, the appropriate government agencies.

In addition, various countries regulate the import of certain encryption technology, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our end customers' ability to implement our products in those countries. Any change in export or import regulations, economic sanctions or related legislation, shift in the enforcement or scope of existing regulations or change in the countries, governments, persons or technologies targeted by such regulations could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential end customers with international operations or create delays in the introduction of our products into international markets. Any decreased use of our products or limitation on our ability to export or sell our products could adversely affect our business, financial condition, results of operations and prospects.

If we or our partners fail to comply with environmental requirements, our business, financial condition, results of operations, prospects and reputation could be adversely affected.

We and our partners, including our contract manufacturers, are subject to various local, state, federal and international environmental laws and regulations, including laws governing the hazardous material content of our products and laws relating to the collection, recycling and disposal of electrical and electronic equipment. Examples of these laws and regulations include the EU's Restrictions of the use of Hazardous Substances Directive, or RoHS Directive, and the EU's Waste Electrical and Electronic Equipment Directive, or WEEE Directive, as well as the implementing legislation of the EU member states. Similar laws and regulations have been passed or are pending in China, South Korea, Norway and Japan and may be enacted in other regions, including in the U.S., and we or our partners, including our contract manufacturers, are, or may in the future be, subject to these laws and regulations.

The EU RoHS Directive and the similar laws of other jurisdictions limit the content of certain hazardous materials such as lead, mercury and cadmium in the manufacture of electrical equipment, including our products. Our products currently comply with the RoHS Directive; however, if there are future changes to this directive, we may be required to re-engineer our products to use components compatible with these regulations. This re-engineering and component substitution could result in additional costs to us or disrupt our operations or logistics.

We are also subject to environmental laws and regulations governing the management and disposal of hazardous materials and wastes. Our failure, or the failure of our partners, including our contract manufacturers, to comply with past, present and future environmental laws could result in fines, penalties, third-party claims, reduced sales of our products, substantial product inventory write-offs and reputational damage, any of which could harm our business, financial condition, results of operations and prospects. We also expect that our business will be affected by new environmental laws and regulations on an ongoing basis applicable to us and our partners, including our contract manufacturers. To date, our expenditures for environmental compliance have not had a material effect on our results of operations or cash flows. Although we cannot predict the future effect of such laws or regulations, they will likely result in additional costs or require us to change the content or manufacturing of our products, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Regulations related to conflict minerals may cause us to incur additional expenses and could limit the supply and increase the costs of certain metals used in the manufacturing of our products.

As a public company, we are subject to requirements under the Dodd-Frank Act that require us to perform diligence, and disclose and report whether or not our products contain “conflict minerals” mined from the Democratic Republic of Congo and adjoining countries and procedures regarding a manufacturer’s efforts to prevent the sourcing of such “conflict minerals.”

The implementation of these requirements could adversely affect the sourcing, availability and pricing of the materials used in the manufacture of components used in our products. In addition, we have incurred and will continue to incur additional costs to comply with these disclosure requirements, including costs related to conducting diligence procedures and, if applicable, potential changes to products, processes or sources of supply as a consequence of such verification activities. We may also face reputational harm or loss sales if we determine that certain of our products contain minerals not determined to be conflict-free or if we are unable to alter our products, processes or sources of supply to avoid such materials.

Risks Related to the Securities Markets and Ownership of Our Common Stock

The trading price of our common stock has been and may continue to be volatile, and the value of your investment could decline.

The trading price of our common stock has historically been and is likely to continue to be volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These fluctuations could cause you to lose all or part of your investment in our common stock. Factors that could cause fluctuations in the market price of our common stock include the following:

- actual or anticipated announcements of new products including the execution of the introduction of such products, services or technologies, commercial relationships, acquisitions or other events by us or our competitors;
- forward-looking statements related to future revenue, gross margins and earnings per share;
- price and volume fluctuations in the overall stock market from time to time;
- changes or decreases in the growth rate of our revenues including from our large end customers and the networking market;
- litigation involving us, our industry, or both;
- manufacturing, supply or distribution shortages or constraints, or challenges with adding or changing our manufacturing process or supply chain;
- significant volatility in the market price and trading volume of technology companies in general and of companies in the IT security industry in particular;
- fluctuations in the trading volume of our shares or the size of our public float;
- sales by our officers, directors or significant stockholders;
- actual or anticipated changes or fluctuations in our results of operations;
- adverse changes to our relationships with any of our channel partners;
- whether our results of operations or our financial outlook for future fiscal periods meet the expectations of securities analysts or investors;
- actual or anticipated changes in the expectations of investors or securities analysts;
- regulatory developments in the U.S., foreign countries or both;
- general economic conditions and trends;
- actual or perceived security breaches and other incidents;
- major catastrophic events;
- our repurchases of our common stock;
- sales of large blocks of our common stock;
- levels of investor confidence; or
- departures of key personnel.

In addition, technology stocks have historically experienced high levels of volatility and, if the market for technology stocks or the stock market in general experiences a loss of investor confidence, the market price of our common stock could decline for reasons unrelated to our business, financial condition, results of operations and prospects. The market price of our common stock might also decline in reaction to events that affect other companies in our industry even if these events do not directly affect us. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. If the market price of our common stock is volatile, we may become the target of securities litigation. Securities litigation could result in substantial costs and divert our management's attention and resources from our business and prospects. This could have a material adverse effect on our business, financial condition, results of operations and prospects.

Sales of substantial amounts of our common stock in the public markets, or the perception that such sales might occur, could reduce the market price that our common stock might otherwise attain and may dilute your voting power and your ownership interest in us.

Sales of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock and may make it more difficult for you to sell your common stock at a time and price that you deem appropriate and may dilute your voting power and your ownership interest in us.

Based on shares outstanding as of December 31, 2019, holders of approximately 23.1% of our common stock have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. In addition, we have registered the offer and sale of all shares of common stock that we may issue under our equity compensation plans. If holders, by exercising their registration rights, sell large numbers of shares, it could adversely affect the market price of our common stock.

We may also issue shares of common stock or securities convertible into our common stock in connection with a financing, acquisition, our equity incentive plans, or otherwise. Any such issuances would result in dilution to our existing stockholders and the market price of our common stock may be adversely affected.

Insiders have substantial control over us, which could limit your ability to influence the outcome of key transactions, including a change of control.

Our directors, executive officers and each of our stockholders who own greater than 10% of our outstanding common stock together with their affiliates, in the aggregate, beneficially own approximately 22.6% of the outstanding shares of our common stock, based on shares outstanding as of December 31, 2019. As a result, these stockholders, if acting together, could exercise a significant level of influence over matters requiring approval by our stockholders, including the election of directors and the approval of mergers, acquisitions or other extraordinary transactions. They may also have interests that differ from yours and may vote in a way with which you disagree and which may be adverse to your interests. This concentration of ownership may also discourage a potential investor from acquiring our common stock due to the limited voting power of such stock or otherwise may have the effect of delaying, preventing or deterring a change of control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock.

We have not paid dividends in the past and do not intend to pay dividends for the foreseeable future.

We have never declared nor paid any dividends on our common stock, and we do not anticipate paying any cash dividends in the future. As a result, you may only receive a return on your investment in our common stock if the market price of our common stock increases.

We have adopted a stock repurchase program to repurchase shares of our common stock, however, any future decisions to reduce or discontinue repurchasing our common stock pursuant to our stock repurchase program could cause the market price for our common stock to decline.

Although our board of directors has authorized a share repurchase program, any determination to execute our stock repurchase program will be subject to, among other things, our financial position and results of operations, available cash and cash flow, capital requirements, and other factors, as well as our board of director’s continuing determination that the repurchase program is in the best interests of our shareholders and is in compliance with all laws and agreements applicable to the repurchase program. Our stock repurchase program does not obligate us to acquire any common stock. If we fail to meet any expectations related to stock repurchases, the market price of our common stock could decline, and could have a material adverse impact on investor confidence. Additionally, price volatility of our common stock over a given period may cause the average price at which we repurchase our common stock to exceed the stock’s market price at a given point in time.

We may further increase or decrease the amount of repurchases of our common stock in the future. Any reduction or discontinuance by us of repurchases of our common stock pursuant to our current share repurchase authorization program could cause the market price of our common stock to decline. Moreover, in the event repurchases of our common stock are reduced or discontinued, our failure or inability to resume repurchasing common stock at historical levels could result in a lower market valuation of our common stock.

If securities or industry analysts publish inaccurate or unfavorable research reports about our business or prospects, the market price of our common stock and trading volume could decline.

The trading market for our common stock, to some extent, depends on the research and reports that securities or industry analysts publish about us or our business or prospects. We do not have any control over these analysts. Recently, more than one of the analysts who cover us have downgraded our shares and changed their opinion of our shares which could cause the market price of our common stock to decline. If one or more of these analysts should cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause the market price of our common stock or trading volume to decline.

Our charter documents and Delaware law could discourage takeover attempts and lead to management entrenchment.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it difficult for stockholders to elect directors that are not nominated by the current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions include:

- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of our board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of our board of directors, our president, our secretary or a majority vote of our board of directors, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement for the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of the voting stock, voting together as a single class, to amend the provisions of our amended and restated certificate of incorporation relating to the issuance of preferred stock and management of our business or our amended and restated bylaws, which may inhibit the ability of an acquirer to effect such amendments to facilitate an unsolicited takeover attempt;
- the ability of our board of directors, by majority vote, to amend the bylaws, which may allow our board of directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend the bylaws to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time.

The issuance of additional stock in connection with financings, acquisitions, investments, our stock incentive plans or otherwise will dilute all other stockholders.

Our amended and restated certificate of incorporation authorizes us to issue up to 1,000,000,000 shares of common stock and up to 100,000,000 shares of preferred stock with such rights and preferences as may be determined by our board of directors. Subject to compliance with applicable rules and regulations, we may issue our shares of common stock or securities convertible into our common stock from time to time in connection with a financing, acquisition, investment, our stock incentive plans or otherwise. We may from time to time issue additional shares of common stock at a discount from the then market price of our common stock. Any issuance of stock could result in substantial dilution to our existing stockholders and cause the market price of our common stock to decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters is located in Santa Clara, California where we currently lease approximately 210,000 square feet of space under a lease agreement that expires in 2023. In addition, we lease office spaces for operations, sales personnel and research and development in locations throughout the U.S. and various international locations, including Ireland, Canada, India, and Australia. We also lease data centers in the U.S., Ireland and the United Kingdom.

We believe that our current facilities are adequate to meet our current needs. We intend to expand our facilities or add new facilities as we add employees and enter new geographic markets, and we believe that suitable additional or alternative space will be available as needed to accommodate ongoing operations and any such growth. We expect to incur additional expenses in connection with such new or expanded facilities.

Item 3. Legal Proceedings

The information set forth under the “Legal Proceedings” in Note 7. Commitments and Contingencies of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K 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

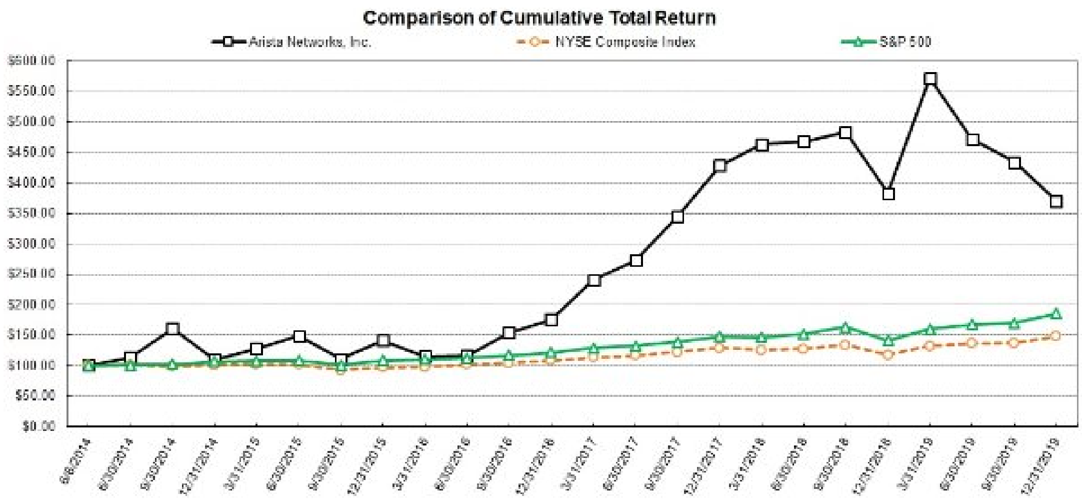
Market Information

Our common stock is listed on the NYSE under the symbol "ANET". As of February 10, 2020, there were 72 holders of record of our common stock. Because many of our shares of common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

Stock Performance Graph

The following shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent we specifically incorporate it by reference into such filing.

The following graph compares the cumulative total return of our common stock with the total return for the NYSE Composite Index and the Standard & Poor's 500 Index (the "S&P 500") from June 6, 2014 (the date of our initial public offering) through December 31, 2019. The graph assumes that $100 was invested on June 6, 2014's closing price in our common stock, the NYSE Composite Index and the S&P 500, and assumes reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.



Securities Authorized for Issuance Under Equity Compensation Plans

Information about securities authorized for issuance under our equity compensation plans is provided in Note 8. Equity Award Plan Activities of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K.

Recent Sales of Unregistered Equity Securities

There were no sales of unregistered securities during the fiscal year of 2019.

Issuer Repurchases of Equity Securities

Under our equity incentive plans, certain participants may exercise options prior to vesting, subject to a right of a repurchase by us. During the fourth quarter of 2019, there were no repurchases of unvested shares of our common stock made pursuant to our equity incentive plans as a result of us exercising our rights nor pursuant to any publicly announced plan or program.

Stock Repurchase Program

In April 2019, our board of directors authorized a $1.0 billion stock repurchase program (the "Repurchase Program"). This authorization allows us to repurchase shares of our common stock opportunistically and will be funded from working capital. Repurchases may be made at management's discretion from time to time on the open market, through privately negotiated transactions, transactions structured through investment banking institutions, block purchases, trading plans under Rule 10b5-1 of the Exchange Act, or a combination of the foregoing. The Repurchase Program, which expires in April 2022, does not obligate us to acquire any of our common stock, and may be suspended or discontinued by us at any time without prior notice. Our stock repurchases under the authorized Repurchase Program (see Note 8. Equity Award Plan Activities of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K) during the three months ended December 31, 2019 were as follows (in thousands, except per share amounts):

	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Publicly Announced Plans or Programs
October 1, 2019 - October 31, 2019	—	$ —	—	$ 785,383
November 1, 2019 - November 30, 2019	202	189.21	202	747,142
December 1, 2019 - December 31, 2019	70	189.71	70	733,860
	272		272	

Item 6. Selected Consolidated Financial Data

The selected consolidated statements of operations data for fiscal 2019, 2018 and 2017 and the consolidated balance sheet data as of December 31, 2019 and 2018 are derived from our audited financial statements appearing in Part II, Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K. The selected consolidated statements of operations data for fiscal 2016 and 2015 and the consolidated balance sheet data as of December 31, 2017, 2016 and 2015 are derived from audited financial statements not included in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of the results to be expected in the future. The following selected consolidated financial data should be read in conjunction with Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," our consolidated financial statements, and the accompanying notes appearing in Part II, Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K to fully understand factors that may affect the comparability of the information presented below.

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(in thousands, except per share data)				
Consolidated Statements of Operations Data:					
Revenue	$ 2,410,706	$ 2,151,369	$ 1,646,186	$ 1,129,167	$ 837,591
Cost of revenue [1]	866,368	777,992	584,417	406,051	294,031
Total gross profit	1,544,338	1,373,377	1,061,769	723,116	543,560
Operating expenses [1]:					
Research and development	462,759	442,468	349,594	273,581	209,448
Sales and marketing	213,907	187,142	155,105	130,887	109,084
General and administrative	61,898	65,420	86,798	75,239	75,720
Legal settlement	—	405,000	—	—	—
Total operating expenses	738,564	1,100,030	591,497	479,707	394,252
Income from operations	805,774	273,347	470,272	243,409	149,308
Other income (expense), net	56,496	15,454	4,488	(1,184)	(3,299)
Income before income taxes	862,270	288,801	474,760	242,225	146,009
Provision for (benefit from) income taxes	2,403	(39,314)	51,559	58,036	24,907
Net income	$ 859,867	$ 328,115	$ 423,201	$ 184,189	$ 121,102
Net income attributable to common stockholders:					
Basic	$ 859,444	$ 327,926	$ 422,400	$ 182,965	$ 119,115
Diluted	$ 859,468	$ 327,941	$ 422,468	$ 183,039	$ 119,264
Net income per share attributable to common stockholders:					
Basic	$ 11.26	$ 4.39	$ 5.85	$ 2.66	$ 1.81
Diluted	$ 10.63	$ 4.06	$ 5.35	$ 2.50	$ 1.67
Weighted-average shares used in computing net income per share attributable to common stockholders:					
Basic	76,312	74,750	72,258	68,771	65,964
Diluted	80,879	80,844	78,977	73,222	71,411

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(in thousands)				
Cost of revenue	$ 4,637	$ 5,087	$ 4,353	$ 3,620	$ 3,048
Research and development	53,068	48,205	42,184	31,892	25,515
Sales and marketing	29,168	24,995	17,953	15,666	11,454
General and administrative	14,407	12,915	10,937	7,854	5,286
Total stock-based compensation	$ 101,280	$ 91,202	$ 75,427	$ 59,032	$ 45,303

	December 31,				
	2019	2018	2017	2016	2015
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 2,724,368	$ 1,956,147	$ 1,535,555	$ 867,833	$ 687,326
Working capital	2,874,562	2,108,298	1,736,524	1,066,573	739,317
Total assets	4,185,290	3,081,983	2,460,860	1,729,007	1,159,890
Total indebtedness	—	37,743	39,592	41,210	42,546
Total deferred revenue and customer contract liabilities	636,338	619,822	515,262	372,935	196,808
Total stockholders' equity	$ 2,894,686	$ 2,143,389	$ 1,661,914	$ 1,107,820	$ 788,152

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations together with the consolidated financial statements and related notes that are included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements based upon current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under "Risk Factors" and elsewhere in this Annual Report on Form 10-K.

Overview

Arista Networks pioneered software-driven, cognitive cloud networking for large-scale data center and campus environments. Our cloud networking solutions consist of our EOS, a set of network applications and our Ethernet switching and routing platforms. Our cloud networking solutions deliver industry-leading performance, scalability, availability, programmability, automation and visibility. At the core of our cloud networking platform is EOS, which was purpose-built to be fully programmable, highly modular and reliable. The programmability of EOS has allowed us to create a set of software applications that address the requirements of cloud networking, including workflow automation, network visibility and analytics, and has also allowed us to rapidly integrate with a wide range of third-party applications for virtualization, management, automation, orchestration and network services.

We believe that cloud networking will continue to replace legacy network technologies across data center and campus environments. Our cloud networking platforms are well positioned to address the growing cloud networking market, and to address increasing performance requirements driven by the growing number of connected devices, as well as the need for constant connectivity and access to data and applications.

We generate revenue primarily from sales of our switching and routing products which incorporate our EOS software. We generate the majority of our services revenue from post contract support, or PCS, which end customers typically purchase in conjunction with our products. Our end customers span a range of industries and include large internet companies, service providers, financial services organizations, government agencies, media and entertainment companies and others. As we have grown the functionality of our EOS software, expanded the range of our product portfolio and increased the size of our sales force, our revenue has grown rapidly. We have also been profitable and operating cash flow positive for each year since 2010.

We believe our future success is dependent upon our ability to continue to develop market leading products and features that address the needs of our end customers and our ability to sell these products to new and existing customers, including an increase in sales in the enterprise data center switching, campus and WiFi networking markets. We intend to continue expanding our sales force and marketing activities in key geographies, as well as our relationships with channel, technology and system-level partners in order to reach new end customers more effectively, increase sales to existing customers, and provide services and support. In addition, we intend to continue to invest in our research and development organization to enhance the functionality of our existing cloud networking platform, introduce new products and features, and build upon our technology leadership. We believe one of our greatest strengths lies in our rapid development of new features and applications.

Our development model is focused on the development of new products based on our EOS software and enhancements to EOS. We engineer our products to be agnostic to the underlying merchant silicon architecture. Today, we combine our EOS software with merchant silicon into a family of switching and routing products. This enables us to focus our research and development resources on our software core competencies and to leverage the investments made by merchant silicon vendors to achieve cost-effective solutions. We work closely with third party contract manufacturers to manufacture our products. Our contract manufacturers deliver our products to our third party direct fulfillment facilities. We and our fulfillment partners then perform labeling, final configuration, quality assurance testing and shipment to our customers.

Historically, large purchases by a relatively limited number of end customers have accounted for a significant portion of our revenue. We have experienced unpredictability in the timing of orders from these large end customers primarily due to changes in demand patterns specific to these customers, the time it takes these end customers to evaluate, test, qualify and accept our products, and the overall complexity of these large orders. We expect continued variability in our customer concentration and timing of sales on a quarterly and annual basis. For example, our sales to Microsoft and Facebook as end users in fiscal 2019 represented 23% and 17% of our revenue, respectively, and benefited from certain factors that are not expected to repeat in fiscal 2020. Consequently, the percentage of our revenue from Microsoft and Facebook in fiscal 2020 is expected to decline, which will likely negatively impact our revenue growth. In addition, we have provided, and may in the future provide, pricing discounts to large end customers, which may result in lower margins for the period in which such sales occur.

Results of Operations

Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

Revenue, Cost of Revenue and Gross Profit (in thousands, except percentages)

	Year Ended December 31,					
	2019		2018		Change in	
	$	% of Revenue	$	% of Revenue	$	%
Revenue						
Product	$ 2,021,150	83.8%	$ 1,841,100	85.6%	$ 180,050	9.8%
Service	389,556	16.2	310,269	14.4	79,287	25.6
Total revenue	2,410,706	100.0	2,151,369	100.0	259,337	12.1
Cost of revenue						
Product	792,382	32.9	720,584	33.5	71,798	10.0
Service	73,986	3.0	57,408	2.7	16,578	28.9
Total cost of revenue	866,368	35.9	777,992	36.2	88,376	11.4
Gross profit	$ 1,544,338	64.1%	$ 1,373,377	63.8%	$ 170,961	12.4%
Gross margin	64.1%		63.8%			

Revenue by Geography (in thousands, except percentages)

	Year Ended December 31,			
	2019	% of Total	2018	% of Total
Americas	$ 1,833,163	76.1%	$ 1,550,453	72.1%
Europe, Middle East and Africa	381,651	15.8	414,069	19.2
Asia-Pacific	195,892	8.1	186,847	8.7
Total revenue	$ 2,410,706	100.0%	$ 2,151,369	100.0%

Revenue

We generate revenue primarily from sales of our products. We also derive a portion of our revenue from sales of PCS, which is typically purchased in conjunction with our products, and subsequent renewals of those contracts. We expect our revenue may vary from period to period based on, among other things, the timing, size, and complexity of orders, especially with respect to our large end customers.

Product revenue increased $180.1 million, or 9.8%, in the year ended December 31, 2019 compared to 2018. The increase was primarily driven by increased demand from both new and existing customers, and the recognition of product deferred revenue related to sales in the prior year for which revenue was recognized in 2019. Service revenue increased $79.3 million, or 25.6% in the year ended December 31, 2019 compared to 2018 as a result of continued growth in initial and renewal support contracts as our customer installed base has continued to expand. International revenues represented 23.9% of total revenues in the year ended December 31, 2019, compared to 27.9% in 2018, which was primarily due to a move toward U.S. deployments by certain of our large end customers during 2019. We continue to experience pricing pressure on our products and services due to competition, but demand for our products and growth in our installed base has more than offset this pricing pressure during the year. However, we have experienced reduced and volatile demand from certain of our large end customers during 2019, and expect this could continue in future periods, which could impact our future revenue growth.

Cost of Revenue and Gross Margin

Cost of revenue primarily consists of amounts paid for inventory to our third-party contract manufacturers and merchant silicon vendors, overhead costs in our manufacturing operations department, and other manufacturing-related costs associated with manufacturing our products and managing our inventory. Cost of providing PCS and other services primarily consists of personnel costs for our global customer support organization.

Cost of revenue increased $88.4 million or 11.4% for the year ended December 31, 2019 compared to 2018. The increase in cost of revenue was primarily due to the corresponding increases in product and service revenues.

Gross margin, or gross profit as a percentage of revenue, has been and will continue to be affected by a variety of factors, including sales to large end customers who generally receive lower pricing, manufacturing-related costs including costs associated with supply chain sourcing activities, merchant silicon costs, the mix of products sold, and excess/obsolete inventory write-downs, including charges for excess/obsolete component inventory held by our contract manufacturers. We expect our gross margins to fluctuate over time, depending on the factors described above.

Gross margin increased to 64.1% for the year ended December 31, 2019 compared to 63.8% in 2018. The increase in gross margin was primarily driven by an increase in product margins due to favorable customer mix, with lower discounts on smaller volume transactions, partially offset by increased product transition costs, including excess and obsolete inventory-related charges.

Operating Expenses (in thousands, except percentages)

Our operating expenses consist of research and development, sales and marketing, general and administrative expenses, and legal settlement expenses. The largest component of our operating expenses is personnel costs. Personnel costs consist of wages, benefits, bonuses and, with respect to sales and marketing expenses, sales commissions. Personnel costs also include stock-based compensation and travel expenses. We expect operating expenses to continue to increase in absolute dollars in the near term as we continue to invest in the growth of our business.

	Year Ended December 31,					
	2019		2018		Change in	
	$	% of Revenue	$	% of Revenue	$	%
Operating expenses:						
Research and development	$ 462,759	19.2%	$ 442,468	20.6%	$ 20,291	4.6 %
Sales and marketing	213,907	8.9	187,142	8.7	26,765	14.3
General and administrative	61,898	2.6	65,420	3.0	(3,522)	(5.4)
Legal settlement	—	—	405,000	18.8	(405,000)	(100.0)
Total operating expenses	$ 738,564	30.7%	$ 1,100,030	51.1%	$ (361,466)	(32.9)%

Research and development.

Research and development expenses consist primarily of personnel costs, prototype expenses, third-party engineering and contractor support costs, and an allocated portion of facility and IT costs, including depreciation. Our research and development efforts are focused on maintaining and developing additional functionality for our existing products and on new product development, including new releases and upgrades to our EOS software and applications. We expect our research and development expenses to increase in absolute dollars as we continue to invest in software development in order to expand the capabilities of our cloud networking platform, introduce new products and features, and build upon our technology leadership.

Research and development expenses increased $20.3 million, or 4.6%, for the year ended December 31, 2019 compared to 2018. The increase was primarily due to a $17.2 million increase in personnel costs driven primarily by headcount growth, and a $7.8 million increase in in development-related facilities costs due to facilities expansion and headcount growth, partially offset by a $5.9 million decrease in new product introduction costs, including third-party engineering and other product development costs.

Sales and marketing.

Sales and marketing expenses consist primarily of personnel costs, marketing, trade shows, and other promotional activities, and an allocated portion of facility and IT costs, including depreciation. We expect our sales and marketing expenses to increase in absolute dollars as we continue to expand our sales and marketing efforts worldwide.

Sales and marketing expenses increased $26.8 million, or 14.3% for the year ended December 31, 2019 compared to 2018. The increase primarily included a $23.4 million increase in personnel costs, which was driven by increased headcount as well as higher sales volumes, resulting in increased compensation costs, including commissions and stock-based compensation.

General and administrative.

General and administrative expenses consist primarily of personnel costs and professional services fees, including Cisco and OptumSoft litigation-related expenses. General and administrative personnel costs include those for our executive, finance, human resources and legal functions. Our professional services fees are primarily related to external legal, accounting, and tax services.

General and administrative expenses decreased $3.5 million, or 5.4%, for the year ended December 31, 2019 compared to 2018. The decrease was primarily related to a reduced level of litigation activities as a result of the settlement of our litigation with Cisco in August 2018.

Legal settlement.

During the three months ended June 30, 2018, we recorded $405.0 million in legal settlement expenses in connection with the Term Sheet that was entered into on August 6, 2018 between the Company and Cisco, which included a $400.0 million payment and $5.0 million of legal fees associated with the settlement. Pursuant to the Term Sheet, the Company and Cisco obtained dismissals of all then ongoing district court and USITC litigation between us. On December 3, 2018, the parties entered into a mutual release and settlement agreement, which superseded the Term Sheet but did not substantially alter the terms.

Other Income (Expense), Net (in thousands, except percentages)

Other income (expense) consists primarily of interest income from our cash, cash equivalents and marketable securities, gains and losses on our investments in privately-held companies, and foreign currency transaction gains and losses. Upon adoption of Accounting Standard Codification Topic 842 - *Leases* ("ASC 842") on January 1, 2019, we derecognized the finance lease obligation associated with our build-to-suit lease, and therefore will not incur further interest expense as it relates to this obligation. See Note 1. Organization and Summary of Significant Accounting Policies of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K for further discussion. We expect other income (expense), net may fluctuate in the future as a result of the re-measurement of our private company equity investments upon the occurrence of observable price change and/or impairments, changes in interest rates or returns on our cash and cash equivalents and marketable securities, and foreign currency exchange rate fluctuations.

	Year Ended December 31,					
	2019		2018		Change in	
	$	% of Revenue	$	% of Revenue	$	%
Other income (expense), net:						
Interest income	$ 51,144	2.2%	$ 31,666	1.4 %	$ 19,478	61.5 %
Interest expense	—	—	(2,701)	(0.1)	2,701	(100.0)
Gain (loss) on investments in privately-held companies	5,427	0.2	(13,800)	(0.6)	19,227	(139.3)
Other income (expense)	(75)	—	289	—	(364)	(126.0)
Total other income (expense), net	$ 56,496	2.4%	$ 15,454	0.7 %	$ 41,042	265.6 %

The favorable change in other income (expense), net, during the year ended December 31, 2019 as compared to 2018 was driven by a $19.5 million increase in interest income as we continued to generate cash and expand our marketable securities portfolios, and a $19.2 million favorable change on our investments in privately-held companies resulting from the gain on certain investments of $5.4 million in 2019, compared to a net loss of $13.8 million on these investments during 2018. See Note 5. Investments of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K for further discussion.

Provision for (Benefit from) Income Taxes (in thousands, except percentages)

We operate in a number of tax jurisdictions and are subject to taxes in each country or jurisdiction in which we conduct business. Earnings from our non-U.S. activities are subject to local country income tax and may also be subject to U.S. income tax. Generally, our U.S. tax obligations are reduced by a credit for foreign income taxes paid on these foreign earnings which avoids double taxation. Our tax expense to date consists of federal, state and foreign current and deferred income taxes.

	Year Ended December 31,				Change in	
	2019		2018			
	$	% of Revenue	$	% of Revenue	$	%
Provision for (benefit from) income taxes	$ 2,403	0.1%	$ (39,314)	(1.9)%	$ 41,717	(106.1)
Effective tax rate	0.3%		(13.6)%			

For the years ended December 31, 2019 and 2018, we recorded an expense of $2.4 million and a benefit of $39.3 million for income taxes, respectively. The change in our income taxes was largely attributable to a $96.9 million tax benefit on the Cisco settlement in 2018 and an overall increase in worldwide earnings in 2019, partially offset by a net tax benefit of $86 million resulting from an intra-entity transaction to sell our non-Americas economic and beneficial intellectual property rights. For further information regarding income taxes and the impact on our results of operations and financial position, see Note 10. Income Taxes of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Revenue, Cost of Revenue and Gross Profit (in thousands, except percentages)

	Year Ended December 31,				Change in	
	2018		2017			
	$	% of Revenue	$	% of Revenue	$	%
Revenue						
Product	$ 1,841,100	85.6%	$ 1,432,810	87.0%	$ 408,290	28.5%
Service	310,269	14.4	213,376	13.0	96,893	45.4
Total revenue	2,151,369	100.0	1,646,186	100.0	505,183	30.7
Cost of revenue						
Product	720,584	33.5	538,035	32.7	182,549	33.9
Service	57,408	2.7	46,382	2.8	11,026	23.8
Total cost of revenue	777,992	36.2	584,417	35.5	193,575	33.1
Gross profit	$ 1,373,377	63.8%	$ 1,061,769	64.5%	$ 311,608	29.3%
Gross margin	63.8%		64.5%			

Revenue by Geography (in thousands, except percentages)

	Year Ended December 31,			
	2018	% of Total	2017	% of Total
Americas	$ 1,550,453	72.1%	$ 1,192,289	72.4%
Europe, Middle East and Africa	414,069	19.2	299,547	18.2
Asia-Pacific	186,847	8.7	154,350	9.4
Total revenue	$ 2,151,369	100.0%	$ 1,646,186	100.0%

Revenue

Product revenue increased $408.3 million, or 28.5%, in the year ended December 31, 2018 compared to 2017. The increase was primarily driven by sales to our existing customers as they continued to expand and upgrade their cloud networks. In addition, our newer switch products have continued to gain market acceptance, which has contributed to our revenue growth. Service revenue increased $96.9 million, or 45.4%, in the year ended December 31, 2018 compared to 2017 as a result of continued growth in initial and renewal support contracts as our customer installed base has continued to expand. We continue to experience pricing pressure on our products and services due to competition, but demand for our products and growth in our installed base has more than offset this pricing pressure during the period.

Cost of Revenue and Gross Margin

Cost of revenue increased $193.6 million or 33.1% for the year ended December 31, 2018 compared to 2017. The increase in cost of revenue was primarily due to the corresponding increases in product revenues.

Gross margin decreased from 64.5% to 63.8% for the year ended December 31, 2018 compared to 2017. The decrease in gross margin was primarily driven by a decrease in product margins due to customer mix, partially offset by reduced inventory-related charges and an improved service margins due to a relatively fixed services cost base and growing service revenues. We expect our gross margins to fluctuate over time, depending on the factors described above.

Operating Expenses (in thousands, except percentages)

	Year Ended December 31,				Change in	
	2018		2017			
	$	% of Revenue	$	% of Revenue	$	%
Operating expenses:						
Research and development	$ 442,468	20.6%	$ 349,594	21.2%	$ 92,874	26.6 %
Sales and marketing	187,142	8.7	155,105	9.4	32,037	20.7
General and administrative	65,420	3.0	86,798	5.3	(21,378)	(24.6)
Legal settlement	405,000	18.8	—	—	405,000	*
Total operating expenses	$ 1,100,030	51.1%	$ 591,497	35.9%	$ 508,533	86.0 %

Research and development

Research and development expenses increased $92.9 million, or 26.6%, for the year ended December 31, 2018 compared to 2017. The increase was primarily due to a $48.9 million increase in personnel costs, including corporate bonuses and stock-based compensation, driven primarily by headcount growth from our normal hiring process and from the two acquisitions we completed in the third quarter of 2018, and a $24.7 million increase in new product introduction costs, driven by additional development projects. In addition, facility and IT costs increased by $9.5 million due to increased IT services, headcount growth and additional costs associated with our acquired businesses.

Sales and marketing

Sales and marketing expenses increased $32.0 million, or 20.7% for the year ended December 31, 2018 compared to 2017. The increase primarily included a $28.0 million increase in personnel costs, which was driven by increased headcount as well as higher sales volumes, resulting in increased compensation costs, including commissions and stock-based compensation.

General and administrative

General and administrative expenses decreased $21.4 million, or 24.6%, for the year ended December 31, 2018 compared to 2017. The decrease included a $33.8 million decrease that was primarily related to a reduced level of litigation activities and a decrease in bond costs as a result of the settlement of the Cisco litigation in August 2018. The decrease was partially offset by $3.5 million of acquisition-related expenses incurred in 2018, a $3.3 million increase in personnel costs, including increased stock-based compensation, driven by increased headcount, and a $3.1 million increase in other legal and professional fees.

Legal settlement

During the three months ended June 30, 2018, we recorded $405.0 million in legal settlement expenses in connection with the Term Sheet that was entered into on August 6, 2018 between the Company and Cisco, which included a $400.0 million payment and $5.0 million of legal fees associated with the settlement. Pursuant to the

Term Sheet, the Company and Cisco obtained dismissals of all then ongoing district court and USITC litigation between us. On December 3, 2018, the parties entered into a mutual release and settlement agreement, which superseded the Term Sheet but did not substantially alter the terms.

Other Income (Expense), Net (in thousands, except percentages)

	Year Ended December 31,					
	2018		2017		Change in	
	$	% of Revenue	$	% of Revenue	$	%
Other income (expense), net:						
Interest income	$ 31,666	1.4 %	$ 8,093	0.5 %	$ 23,573	291.3 %
Interest expense	(2,701)	(0.1)	(2,780)	(0.2)	79	(2.8)
Gain (loss) on investments in privately-held companies	(13,800)	(0.6)	—	—	(13,800)	*
Other income (expense)	289	—	(825)	(0.1)	1,114	(135.0)
Total other income (expense), net	$ 15,454	0.7 %	$ 4,488	0.2 %	$ 10,966	244.3 %

The favorable change in other income (expense), net, during the year ended December 31, 2018 as compared to 2017 was driven by a $23.6 million increase in interest income as we continued to generate cash and expand our marketable securities portfolios, which was offset partially by a $13.8 million net loss recorded in 2018 on our investments in privately-held companies. See Note 5. Investments of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K for further discussion.

Provision for Income Taxes (in thousands, except percentages)

	Year Ended December 31,					
	2018		2017		Change in	
	$	% of Revenue	$	% of Revenue	$	%
Provision for income taxes	$ (39,314)	(1.9)%	$ 51,559	3.1%	$ (90,873)	(176.3)%
Effective tax rate	(13.6)%		10.9%			

For the years ended December 31, 2018 and 2017, we recorded a benefit of $39.3 million and an expense of $51.6 million for income taxes, respectively. The change in our income taxes was largely attributable to a $96.9 million tax benefit on the Cisco settlement in 2018 whereas we recorded a $51.8 million tax expense in 2017 related to the enactment of the Tax Act. The Tax Act provided for a decrease in the 2018 U.S. federal statutory tax rate, but this was partially offset by a new requirement to provide U.S. tax on foreign earnings. For further information regarding income taxes and the impact on our results of operations and financial position, see Note 10. Income Taxes of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K.

Liquidity and Capital Resources

Our principal sources of liquidity are cash, cash equivalents, marketable securities, and cash generated from operations. As of December 31, 2019, our total balance of cash, cash equivalents and marketable securities was $2.7 billion, of which approximately $472.5 million was held outside the U.S. in our foreign subsidiaries.

Our cash, cash equivalents and marketable securities are held for working capital purposes. Our marketable securities investment portfolio is primarily invested in highly-rated securities with the primary objective of minimizing the potential risk of principal loss. We plan to continue to invest for long-term growth. We believe that our existing balances of cash, cash equivalents and marketable securities, together with cash generated from operations will be sufficient to meet our working capital requirements and our growth strategies for at least the next 12 months. Our future capital requirements will depend on many factors, including our growth rate, the timing and extent of our spending to support research and development activities, the timing and cost of establishing additional sales and marketing capabilities, the introduction of new and enhanced product and service offerings, our costs associated with supply chain activities, including access to outsourced manufacturing, our costs related to investing in or acquiring complementary or strategic businesses and technologies, the continued market acceptance of our products, and stock repurchases. If we require or elect to seek additional capital through debt or equity financing in the future, we may not be able to raise capital on terms acceptable to us or at all. If we are required and unable to raise additional capital when desired, our business, operating results and financial condition may be adversely affected.

Cash Flows

	Year Ended December 31,		
	2019	2018	2017 As Adjusted (1)
	(in thousands)		
Cash provided by operating activities	$ 963,034	$ 503,119	$ 631,627
Cash used in investing activities (1)	(284,072)	(755,113)	(391,320)
Cash (used in) provided by financing activities	(217,964)	42,851	51,469
Effect of exchange rate changes	353	(1,390)	753
Net increase/(decrease) in cash, cash equivalents and restricted cash	$ 461,351	$ (210,533)	$ 292,529

(1) Cash used in investing activities for year ended December 31, 2017 were adjusted as a result of our adoption of ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, in the first quarter of 2018. See Note 1. *Organization and Summary of Significant Accounting Policies* included in Part II, Item 8, of this Annual Report on Form 10-K for more information.

Cash Flows from Operating Activities

Our operating activities have consisted of net income, adjusted for certain non-cash items, and changes in assets and liabilities.

During the year ended December 31, 2019, cash provided by operating activities was $963.0 million, primarily from net income of $859.9 million and net non-cash adjustments to net income of $62.4 million, partially offset by a net decrease of $40.8 million in cash from changes in our operating assets and liabilities. Cash outflows from operating activities consisted of an $11.9 million decrease in deferred revenue primarily due to the recognition of product deferred revenue related to contract acceptance terms, largely offset by increased service deferred revenue related to growth in customer service and support contracts, a $60.2 million increase in accounts receivable due to timing of shipments, and an $8.1 million increase in other assets resulting from increased spares inventory to support our customer base. These cash outflows were partially offset by cash inflows of $54.3 million in prepaid expenses and other current assets from a decrease in deferred cost of inventory due to the recognition of product deferred revenue, $23.5 million from an increase in income taxes payable, $20.9 million decrease in inventories due to timing of product shipments and receipts, and $16.4 million from increased accrued liabilities primarily due to an increase in supplier liability reserves for excess and obsolete component inventory.

During the year ended December 31, 2018, cash provided by operating activities was $503.1 million, net of $405.0 million payments for the legal settlement with Cisco including the associated legal fees. Our cash provided by operating activities was primarily from net income of $328.1 million, non-cash adjustments to net income of $71.4 million, and a net increase of $103.6 million in cash from changes in our operating assets and liabilities. Our operating cash benefited $70.5 million from increased deferred revenue reflecting ongoing growth in service and support contracts, $51.1 million from decreased inventories driven by improved inventory management and timing of receipts, $39.3 million from increased accounts payable due to timing of vendor payments primarily related to inventory-related purchases, $21.4 million from a decrease in prepaid expenses and other assets primarily due to decreased deposits at our contract manufacturers, and $17.5 million from an increase in other long term liabilities primarily driven by increased customer prepayments under cancellable contracts. These favorable changes were partially offset by unfavorable changes of $77.9 million from increased accounts receivable due to increased billing and timing of customer shipments, and $14.8 million from decreased accrued liabilities due primarily to a decline in supplier liabilities and the timing of vendor accruals.

Cash Flows from Investing Activities

Our investing activities have consisted primarily of purchases of available for sale marketable securities, net of proceeds from maturities of marketable securities, business acquisitions, investments in privately-held companies, and capital expenditures.

During the year ended December 31, 2019, cash used in investing activities was $284.1 million, primarily consisting of purchases of available-for-sale securities of $1.5 billion, and purchases of property and equipment of 15.8 million, partially offset by proceeds of $1.2 billion from maturities of marketable securities and proceeds from the sale of one of our investments in privately-held companies of $28.2 million.

During the year ended December 31, 2018, cash used in investing activities was $755.1 million, consisting of purchases of marketable securities of $1.2 billion, offset by proceeds of $547.8 million from maturities of marketable securities, $96.8 million for business acquisitions, additional investments in privately-held companies of $8.0 million, and purchases of property, equipment and other assets of $23.8 million.

Cash Flows from Financing Activities

Our financing activities have consisted primarily of proceeds from the issuance of our common stock under employee equity incentive plans, offset by repurchases of our common stock.

During the year ended December 31, 2019, cash provided by financing activities was $218.0 million, consisting primarily of payments for repurchases of our common stock of $266.1 million and taxes paid of $9.2 million upon vesting of restricted stock units, offset partially by proceeds from the issuance of common stock under employee equity incentive plans of $57.4 million.

During the year ended December 31, 2018, cash provided by financing activities was $42.9 million, consisting primarily of proceeds of $53.7 million from the issuance of common stock under employee equity incentive plans, partially offset by $8.9 million of taxes paid upon vesting of restricted stock units, and payments of $1.9 million for lease financing obligations.

Stock Repurchase Program

From time to time, we repurchase our common stock opportunistically pursuant to our Repurchase Program authorized by our board of directors in April 2019. The Repurchase Program allows for stock repurchases of up to $1.0 billion and these repurchases are funded from working capital. The Repurchase Program, which expires in April 2022, does not obligate us to acquire any of our common stock, and may be suspended or discontinued by us at any time without prior notice. As of December 31, 2019, we repurchased a total of $266.1 million of our common stock, and the remaining authorized amount for repurchases under the Repurchase Program was $733.9 million. Refer to Note 8. Equity Award Plan Activities of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K for further discussion.

Off-Balance Sheet Arrangements

As of December 31, 2019, we did not have any relationships with any unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Contractual Obligations and Commitments

Our contractual commitments will have an impact on our future liquidity. Our contractual obligations represent material expected or contractually committed future payment obligations. We believe that we will be able to fund these obligations through cash generated from operations and from our existing balances of cash, cash equivalent and marketable securities.

The following summarizes our contractual obligations and commitments as of December 31, 2019 (in thousands):

	Payments Due by Period				
	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
Operating lease obligations	117,065	20,563	42,794	27,488	26,220
Purchase commitments with contract manufacturers and suppliers	279,203	279,203	—	—	—
Other non-cancellable purchase obligations	15,482	15,482	—	—	
Transition tax payable	5,967	—	—	2,025	3,942
Total	$ 417,717	$ 315,248	$ 42,794	$ 29,513	$ 30,162

The contractual obligation table above excludes tax liabilities of $57.5 million related to uncertain tax positions because we are unable to make a reasonably reliable estimate of the timing of settlement, if any, of these future payments.

In connection with Tax Reform, as of December 31, 2017, we recorded a federal income tax payable for transition tax on the mandatory deemed repatriation of foreign earnings that will be payable over an eight-year period. The amounts included in the table above represent the remaining federal income tax payable after applying the first year's installment payment and early payments of future installments.

Critical Accounting Policies and Estimates

We have prepared our consolidated financial statements in accordance with U.S. generally accepted accounting principles (GAAP) and include our accounts and the accounts of our wholly owned subsidiaries. The preparation of these consolidated financial statements requires our management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities at the date of the financial statements, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the applicable periods. We base our estimates, assumptions and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our consolidated financial statements, which, in turn, could change the results from those reported. We evaluate our estimates, assumptions and judgments on an ongoing basis. Actual results may differ from these estimates. To the extent that there are material differences between these estimates and our actual results, our future financial statements will be affected. The critical accounting estimates, assumptions and judgments that we believe have the most significant impact on our consolidated financial statements are the following:

Revenue Recognition

We generate revenue from sales of our products, which incorporate our EOS software and accessories such as cables and optics, to direct customers and channel partners together with PCS. We typically sell products and PCS in a single contract. We recognize revenue upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to be entitled to receive in exchange for those products or services. We apply the following five-step revenue recognition model:

- Identification of the contract, or contracts, with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract

- Recognition of revenue when (or as) we satisfy the performance obligation

Post-Contract Customer Support

PCS, which includes technical support, hardware repair and replacement parts beyond standard warranty, bug fixes, patches and unspecified upgrades on a when-and-if-available basis, is offered under renewable, fee-based contracts. We initially defer PCS revenue and recognize it ratably over the life of the PCS contract as there is no discernable pattern of delivery related to these promises. We do not provide unspecified upgrades on a set schedule and addresses customer requests for technical support if and when they arise, with the related expenses recognized as incurred. PCS contracts generally have a term of one to three years. We include billed but unearned PCS revenue in deferred revenue.

Contracts with Multiple Performance Obligations

Most of our contracts with customers, other than renewals of PCS, contain multiple performance obligations with a combination of products and PCS. Products and PCS generally qualify as distinct performance obligations. Our hardware includes EOS software, which together deliver the essential functionality of our products. For contracts which contain multiple performance obligations, we allocate revenue to each distinct performance obligation based on the standalone selling price ("SSP"). Judgment is required to determine the SSP for each distinct performance obligation. We use a range of amounts to estimate SSP for products and PCS sold together in a contract to determine whether there is a discount to be allocated based on the relative SSP of the various products and PCS.

If we do not have an observable SSP, such as when we do not sell a product or service separately, then SSP is estimated using judgment and considering all reasonably available information such as market conditions and information about the size and/or purchase volume of the customer. We generally use a range of amounts to estimate SSP for individual products and services based on multiple factors including, but not limited to the sales channel (reseller, distributor or end customer), the geographies in which our products and services are sold, and the size of the end customer.

We limit the amount of revenue recognition for contracts containing forms of variable consideration, such as future performance obligations, customer-specific returns, and acceptance or refund obligations. We include some or all of an estimate of the related at risk consideration in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recorded under each contract will not occur when the uncertainties surrounding the variable consideration are resolved.

Most of our contracts with customers have payment terms of 30 days with some large high volume customers having terms of up to 60 days. We have determined our contracts generally do not include a significant financing component because the Company and the customer have specific business reasons other than financing for entering into such contracts. Specifically, both we and our customers seek to ensure the customer has a simplified way of purchasing Arista products and services.

We account for multiple contracts with a single partner as one arrangement if the contractual terms and/or substance of those agreements indicate that they may be so closely related that they are, in effect, parts of a single contract.

We may occasionally accept returns to address customer satisfaction issues even though there is generally no contractual provision for such returns. We estimate returns for sales to customers based on historical returns rates applied against current-period shipments. Specific customer returns and allowances are considered when determining our sales return reserve estimate.

Our policy applies to the accounting for individual contracts. However, we have elected a practical expedient to apply the guidance to a portfolio of contracts or performance obligations with similar characteristics so long as such application would not differ materially from applying the guidance to the individual contracts (or performance obligations) within that portfolio. Consequently, we have chosen to apply the portfolio approach when possible, which we do not believe will happen frequently. Additionally, we will evaluate a portfolio of data, when possible, in various situations, including accounting for commissions, rights of return and transactions with variable consideration.

We report revenue net of sales taxes. We include shipping charges billed to customers in revenue and the related shipping costs are included in cost of product revenue.

Inventory Valuation and Contract Manufacturer/Supplier Liabilities

Inventories primarily consist of finished goods and strategic components, primarily integrated circuits. Inventories are stated at the lower of cost (computed using the first-in, first-out method) and net realizable value. Manufacturing overhead costs and inbound shipping costs are included in the cost of inventory. We record a provision when inventory is determined to be in excess of anticipated demand, or obsolete, to adjust inventory to its estimated realizable value.

Our contract manufacturers procure components and assemble products on our behalf based on our forecasts. We record a liability and a corresponding charge for non-cancellable, non-returnable purchase commitments with our contract manufacturers or suppliers for quantities in excess of our demand forecasts or that are considered obsolete due to manufacturing and engineering change orders resulting from design changes.

We use significant judgment in establishing our forecasts of future demand and obsolete material exposures. These estimates depend on our assessment of current and expected orders from our customers, product development plans and current sales levels. If actual market conditions are less favorable than those projected by management, which may be caused by factors within and outside of our control, we may be required to increase our inventory write-downs and liabilities to our contract manufacturers and suppliers, 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.

Income Taxes

Income tax expense is an estimate of current income taxes payable in the current fiscal year based on reported income before income taxes. Deferred income taxes reflect the effect of temporary differences and carryforwards that we recognize for financial reporting and income tax purposes.

We account for income taxes under the liability approach for deferred income taxes, which requires recognition of deferred income tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements, but have not been reflected in our taxable income. Estimates and judgments occur in the calculation of certain tax liabilities and in the determination of the recoverability of certain deferred income tax assets, which arise from temporary differences and carryforwards. Deferred income tax assets and liabilities are measured using the currently enacted tax rates that apply to taxable income in effect for the years in which those tax assets are expected to be realized or settled. We regularly assess the likelihood that our deferred income tax assets will be realized based on the positive and negative evidence available. We record a valuation allowance to reduce the deferred tax assets to the amount that we are more likely than not to realize.

We believe that we have adequately reserved for our uncertain tax positions, although we can provide no assurance that the final tax outcome of these matters will not be materially different. 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 and could have a material impact on our financial condition and results of operations. The provision for income taxes includes the effects of any reserves that we believe are appropriate, as well as the related net interest and penalties.

We regularly review our tax positions and benefits to be realized. We recognize tax liabilities based upon our estimate of whether, and to the extent to which, additional taxes will be due when such estimates are more likely than not to be sustained. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. We recognize interest and penalties related to income tax matters as income tax expense.

Loss Contingencies

In the ordinary course of business, we are a party to claims and legal proceedings including matters relating to commercial, employee relations, business practices and intellectual property. In assessing loss contingencies, we use significant judgment and assumptions to estimate the likelihood of loss, impairment of an asset or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss. We record a provision for contingent losses when it is both probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We will 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 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

Refer to "Recent Accounting Pronouncements" in Note 1. Organization and Summary of Significant Accounting Policies of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in foreign currency exchange rates, interest rates and investments in privately held companies.

Foreign Currency Exchange Risk

Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. Substantially all of our revenue is denominated in U.S. dollars, and therefore, our revenue is not directly subject to foreign currency risk. However, we are indirectly exposed to foreign currency risk. A stronger U.S. dollar could make our products and services more expensive in foreign countries and therefore reduce demand. A weaker U.S. dollar could have the opposite effect. Such economic exposure to currency fluctuations is difficult to measure or predict because our sales are also influenced by many other factors.

Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the U.S. and to a lesser extent in Europe and Asia. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. A hypothetical 10% change in foreign currency exchange rates on our monetary assets and liabilities would not be material to our financial condition or results of operations. To date, foreign currency transaction gains and losses and exchange rate fluctuations have not been material to our financial statements. While we have not engaged in the hedging of our foreign currency transactions to date and do not enter into any hedging contracts for trading or speculative purposes, we may in the future hedge selected significant transactions denominated in currencies other than the U.S. dollar.

Interest Rate Sensitivity

As of December 31, 2019 and 2018, we had cash, cash equivalents and available-for-sale marketable securities totaling $2.7 billion and $2.0 billion, respectively. Cash equivalents and marketable securities were invested primarily in money market funds, corporate bonds, U.S. agency mortgage-backed securities, U.S. treasury securities and commercial paper. Our primary investment objectives are to preserve capital and maintain liquidity requirements. In addition, our policy limits the amount of credit exposure to any single issuer. We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of the interest rates in the U.S. A decline in interest rates would reduce our interest income on our cash, cash equivalents and marketable securities. For the year ended December 31, 2019, 2018 and 2017, the effect of a hypothetical 100 basis point increase or decrease in overall interest rates would not have had a material impact on our interest income.

On the other hand, the fair market value of our investments in fixed income securities may be adversely impacted. We would incur unrealized losses on fixed income securities primarily due to higher interest rates compared to interest rates at the time of purchase. Under certain circumstances, if we are forced to sell our marketable securities prior to maturity, we may incur realized losses in such investments. However, because of the conservative and short-term nature of the investments in our portfolio, a change in interest rates is not expected to have a material impact on our consolidated financial statements.

Investments in Privately-Held Companies

Our non-marketable equity investments in privately-held companies are recorded in “Investments” in our consolidated balance sheets. As of December 31, 2019 and 2018, the total carrying amount of our investments in privately-held companies was $4.2 million and $30.3 million. During fiscal 2019, we recorded a net gain of $5.4 million on certain investments, compared to a net loss of $13.8M during fiscal 2018. See Note 5. Investments of the Notes to Consolidated Financial Statements included in Part II, Item 8, of this Annual Report on Form 10-K for details.

The privately-held companies in which we invested are 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.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Arista Networks, Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, 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, 2019, 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 13, 2020 expressed an unqualified opinion thereon.

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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Inventory Valuation & Contract Manufacturer/Supplier Liabilities

Description of the Matter	As discussed in Note 1 of the consolidated financial statements, the Company's inventories are stated at the lower of cost (computed using the first-in, first-out method) and net realizable value. The Company's inventory balance totaled $244 million on December 31, 2019. The Company records a provision when inventory is determined to be in excess of anticipated demand, or obsolete, to adjust inventory to its estimated realizable value. The Company records a contract manufacturer/supplier liability and a corresponding charge for non-cancellable, non-returnable purchase commitments with contract manufacturers or suppliers for quantities in excess of the Company's demand forecasts, or that are considered obsolete. Auditing management's assessment of net realizable value for inventory and contract manufacturer/supplier liabilities was complex and highly judgmental due to the assessment of management's estimates of forecasted product demand, which can be impacted by changes in overall customer demand, changes in the timing of the introduction and customer adoption of new products, adjustments to manufacturing and engineering schedules, and overall general economic and market conditions.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's determination of the net realizable value of inventory and the contract manufacturer/supplier liability. This included controls over the preparation of the demand and production forecasts, and the evaluation of the accuracy and completeness of the inventory provision and contract manufacturer/supplier liability. To test the inventory provision and contract manufacturer/supplier liability, we performed audit procedures that included, among others, assessing the Company's methodology over the computation of the provision and liability, testing the significant assumptions and the underlying inputs used by the Company in its analysis including historical sales trends, expectations regarding future sales, changes in the Company's business, customer base, product roadmap and other relevant factors.
	Income Taxes - Intra-entity transfer of intellectual property
Description of the Matter	As discussed in Note 10 to the consolidated financial statements, on December 31, 2019, the Company completed an intra-entity transaction to sell its non-Americas economic and beneficial intellectual property ("IP") rights in exchange for a non-interest-bearing note of $3.4 billion. As a result of the transaction, tax basis in the IP transferred equal to the fair market value of the qualifying IP resulted in the recognition of a deferred tax asset of $429.1 million, which was largely offset by a deferred tax liability of $343.3 million associated with future US tax on foreign earnings for the difference in the local tax basis and US GAAP book basis of the IP rights. Auditing the tax basis resulting from the intra-entity transfer of intellectual property was complex and highly judgmental due to the significant estimation required to determine the fair value of the intellectual property transferred. In particular, the fair value estimate was sensitive to significant assumptions, such as changes in the revenue growth rate, gross margin, profit before tax margin, tax rate discount for non-exclusivity, terminal value and weighted average cost of capital, which are affected by expectations about future market or economic conditions, particularly those in emerging markets.

How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the accounting for the intra-entity transfer of intellectual property, including controls over management’s review of underlying agreements, estimation of fair value and evaluation of the related tax laws applicable to the transfer of intellectual property. To test the estimated fair value of intellectual property transferred, we performed audit procedures that included, among others, assessing methodologies and testing the significant assumptions discussed above and the underlying data used by the Company in its analysis. We involved our valuation specialists in assessing the valuation methodology applied and evaluating certain significant assumptions. When evaluating the significant assumptions used to determine the fair value of intellectual property, we compared the assumptions to the past performance, selected guideline companies, third party analyst expectations for the industry, and current and forecasted market trends. We also assessed the historical accuracy of management’s estimates and performed sensitivity analyses of significant assumptions to evaluate the changes in the fair value of intellectual property transferred that would result from changes in the assumptions. We involved our tax professionals, who assisted in evaluating the Company’s interpretation and application of tax laws and regulations, and the Company’s compliance with the intercompany agreements, which were executed as part of the transfer.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2008.
San Jose, California
February 13, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on Internal Control over Financial Reporting

We have audited Arista Networks, Inc.'s internal control over financial reporting as of December 31, 2019, 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, Arista Networks, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, 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 Arista Networks Inc. as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes of the Company and our report dated February 13, 2020 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 Annual 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 13, 2020

ARISTA NETWORKS, INC.
Consolidated Balance Sheets
(In thousands, except par value)

	December 31,			
	2019		2018	
ASSETS				
CURRENT ASSETS:				
Cash and cash equivalents	$	1,111,286	$	649,950
Marketable securities		1,613,082		1,306,197
Accounts receivable, net of rebates and allowances of $6,160 and $9,120, respectively		391,987		331,777
Inventories		243,825		264,557
Prepaid expenses and other current assets		111,456		162,321
Total current assets		3,471,636		2,714,802
Property and equipment, net		39,273		75,355
Acquisition-related intangible assets, net		45,235		58,610
Goodwill		54,855		53,684
Investments		4,150		30,336
Operating lease right-of-use assets		87,770		—
Deferred tax assets		452,025		126,492
Other assets		30,346		22,704
TOTAL ASSETS	$	4,185,290	$	3,081,983
LIABILITIES AND STOCKHOLDERS' EQUITY				
CURRENT LIABILITIES:				
Accounts payable	$	92,105	$	93,757
Accrued liabilities		140,249		123,254
Deferred revenue		312,668		358,586
Other current liabilities		52,052		30,907
Total current liabilities		597,074		606,504
Income taxes payable		55,485		36,167
Operating lease liabilities, non-current		83,022		—
Finance lease liabilities, non-current		—		35,431
Deferred revenue, non-current		262,620		228,641
Deferred tax liabilities, non-current		254,710		3,753
Other long-term liabilities		37,693		28,098
TOTAL LIABILITIES		1,290,604		938,594
Commitments and contingencies (Note 7)				
STOCKHOLDERS' EQUITY:				
Preferred stock, $0.0001 par value—100,000 shares authorized and no shares issued and outstanding as of December 31, 2019 and 2018		—		—
Common stock, $0.0001 par value—1,000,000 shares authorized as of December 31, 2019 and 2018; 76,389 and 75,668 shares issued and outstanding as of December 31, 2019 and 2018		8		8
Additional paid-in capital		1,106,305		956,572
Retained earnings		1,788,230		1,190,803
Accumulated other comprehensive income (loss)		143		(3,994)
TOTAL STOCKHOLDERS' EQUITY		2,894,686		2,143,389
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$	4,185,290	$	3,081,983

The accompanying notes are an integral part of these consolidated financial statements.

ARISTA NETWORKS, INC.
Consolidated Statements of Operations
(In thousands, except per share amounts)

	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Product	$ 2,021,150	$ 1,841,100	$ 1,432,810
Service	389,556	310,269	213,376
Total revenue	2,410,706	2,151,369	1,646,186
Cost of revenue:			
Product	792,382	720,584	538,035
Service	73,986	57,408	46,382
Total cost of revenue	866,368	777,992	584,417
Gross profit	1,544,338	1,373,377	1,061,769
Operating expenses:			
Research and development	462,759	442,468	349,594
Sales and marketing	213,907	187,142	155,105
General and administrative	61,898	65,420	86,798
Legal settlement	—	405,000	—
Total operating expenses	738,564	1,100,030	591,497
Income from operations	805,774	273,347	470,272
Other income (expense), net	56,496	15,454	4,488
Income before income taxes	862,270	288,801	474,760
Provision for (benefit from) income taxes	2,403	(39,314)	51,559
Net income	$ 859,867	$ 328,115	$ 423,201
Net income attributable to common stockholders:			
Basic	$ 859,444	$ 327,926	$ 422,400
Diluted	$ 859,468	$ 327,941	$ 422,468
Net income per share attributable to common stockholders:			
Basic	$ 11.26	$ 4.39	$ 5.85
Diluted	$ 10.63	$ 4.06	$ 5.35
Weighted-average shares used in computing net income per share attributable to common stockholders:			
Basic	76,312	74,750	72,258
Diluted	80,879	80,844	78,977

The accompanying notes are an integral part of these consolidated financial statements.

ARISTA NETWORKS, INC.
Consolidated Statements of Comprehensive Income
(In thousands)

	Year Ended December 31,		
	2019	2018	2017
Net income	$ 859,867	$ 328,115	$ 423,201
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(686)	(2,069)	672
Net change in unrealized gains (losses) on available-for-sale marketable securities	4,823	13	(1,135)
Other comprehensive income (loss)	4,137	(2,056)	(463)
Comprehensive income	$ 864,004	$ 326,059	$ 422,738

The accompanying notes are an integral part of these consolidated financial statements.

ARISTA NETWORKS, INC.
Consolidated Statements of Stockholders' Equity
(In thousands)

	Common Stock					
	Shares	Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance — December 31, 2016	70,811	7	674,183	435,105	(1,475)	$ 1,107,820
Cumulative-effect adjustment to beginning balance (1)			1,471	808		2,279
Net income	—	—	—	423,201	—	423,201
Other comprehensive loss, net of tax	—	—	—	—	(463)	(463)
Stock-based compensation	—	—	75,427	—	—	75,427
Issuance of common stock in connection with employee equity incentive plans	2,918	—	57,111	—	—	57,111
Tax withholding paid for net share settlement of equity awards	(23)	—	(4,025)	—	—	(4,025)
Vesting of early-exercised stock options	—	—	564	—	—	564
Balance — December 31, 2017	73,706	7	804,731	859,114	(1,938)	1,661,914
Cumulative-effect adjustment to beginning balance (2)	—	—	—	3,574	—	3,574
Net income	—	—	—	328,115		328,115
Other comprehensive loss, net of tax	—	—	—	—	(2,056)	(2,056)
Stock-based compensation	—	—	91,202	—	—	91,202
Issuance of common stock in connection with employee equity incentive plans	1,918	1	53,657	—	—	53,658
Tax withholding paid for net share settlement of equity awards	(36)	—	(8,878)	—	—	(8,878)
Vesting of early-exercised stock options	—	—	305	—	—	305
Common stock issued for business acquisition	80	—	15,555	—	—	15,555
Balance — December 31, 2018	75,668	8	956,572	1,190,803	(3,994)	2,143,389
Cumulative-effect adjustment to beginning balance (3)	—	—	—	3,702	—	3,702
Net income	—	—	—	859,867	—	859,867
Other comprehensive income, net of tax	—	—	—	—	4,137	4,137
Stock-based compensation	—	—	101,280	—	—	101,280
Issuance of common stock in connection with employee equity incentive plans	1,951	—	57,377	—	—	57,377
Repurchase of common stock	(1,189)	—	—	(266,142)	—	(266,142)
Tax withholding paid for net share settlement of equity awards	(41)	—	(9,200)	—	—	(9,200)
Vesting of early-exercised stock options	—	—	276	—	—	276
Balance — December 31, 2019	76,389	$ 8	$ 1,106,305	$ 1,788,230	$ 143	$ 2,894,686

(1) During our first fiscal quarter of 2017, we adopted ASU 2016-09, "Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting." See Note 1of the accompanying notes for further details. This adoption resulted in a cumulative-effect adjustment to the beginning balance of Additional Paid-in Capital and Retained Earnings, respectively, for 2017.
(2) On January 1, 2018, we adopted ASC 606 - Revenue from Contracts with Customers ("ASC 606") and ASU 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory, which resulted in a cumulative-effect adjustment to the beginning balance of Retained Earnings for 2018. See Note 1 of the accompanying notes for further details.
(3) On January 1, 2019, we adopted ASC 842, which resulted in a cumulative-effect adjustment to the beginning balance of Retained Earnings for 2019. See Note 1 of the accompanying notes for further details.

The accompanying notes are an integral part of these consolidated financial statements.

ARISTA NETWORKS, INC.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2019	2018	2017 As Adjusted [1]
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	$ 859,867	$ 328,115	$ 423,201
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and other	32,849	27,671	20,640
Noncash lease expense	16,179	—	—
Stock-based compensation	101,280	91,202	75,427
Deferred income taxes	(75,741)	(57,896)	8,426
(Gain) loss on investments in privately-held companies, net	(5,427)	13,800	—
Amortization (accretion) of investment premiums (discounts)	(6,771)	(3,360)	1,452
Changes in operating assets and liabilities:			
Accounts receivable, net	(60,210)	(77,916)	5,773
Inventories	20,927	51,054	(69,708)
Prepaid expenses and other current assets	54,259	21,411	(11,645)
Other assets	(8,112)	(3,389)	907
Accounts payable	(1,937)	39,337	(30,104)
Accrued liabilities	16,366	(14,786)	43,535
Deferred revenue	(11,939)	70,533	142,327
Income taxes payable	23,523	(112)	19,921
Other liabilities	7,921	17,455	1,475
Net cash provided by operating activities	963,034	503,119	631,627
CASH FLOWS FROM INVESTING ACTIVITIES:			
Proceeds from maturities of marketable securities	1,208,717	547,797	206,332
Purchases of marketable securities	(1,503,893)	(1,174,259)	(585,373)
Business acquisitions, net of cash acquired	(1,365)	(96,821)	—
Purchases of property and equipment	(15,751)	(23,830)	(15,279)
Investments in privately-held companies	28,220	(8,000)	—
Other investing activities	—	—	3,000
Net cash used in investing activities [1]	(284,072)	(755,113)	(391,320)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Principal payments of lease financing obligations	—	(1,929)	(1,617)
Proceeds from issuance of common stock under equity plans	57,378	53,658	57,111
Tax withholding paid on behalf of employees for net share settlement	(9,200)	(8,878)	(4,025)
Repurchase of common stock	(266,142)	—	—
Net cash (used in) provided by financing activities	(217,964)	42,851	51,469
Effect of exchange rate changes	353	(1,390)	753
NET INCREASE/(DECREASE) IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	461,351	(210,533)	292,529
CASH, CASH EQUIVALENTS AND RESTRICTED CASH —Beginning of period	654,164	864,697	572,168
CASH, CASH EQUIVALENTS AND RESTRICTED CASH —End of period [2]	$ 1,115,515	$ 654,164	$ 864,697
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for income taxes, net of refunds	$ 32,832	$ 17,573	$ 44,216
Cash paid for interest — lease financing obligation	—	2,692	2,814
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING INFORMATION:			
Right-of-use assets recognized upon the adoption of ASC 842 [3]	$ 93,207	$ —	$ —
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 10,948	$ —	$ —
Common stock issued for business acquisition	$ —	$ 15,555	$ —
Property and equipment included in accounts payable and accrued liabilities	2,120	2,340	3,811

Vesting of early exercised stock options and restricted stock awards	276	305	564

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(1) Net cash used in investing activities for the year ended December 31 of 2017 was adjusted as a result of our adoption of ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, in the first quarter of 2018. See Note 1 of the accompanying notes for details of the adjustments.
(2) See Note 4 of the accompanying notes for a reconciliation of the ending balance of cash, cash equivalents and restricted cash as shown in this consolidated statements of cash flows.
(3) See Note 1 of the accompanying notes.

The accompanying notes are an integral part of these consolidated financial statements.

ARISTA NETWORKS, INC.
Notes to Consolidated Financial Statements

1. Organization and Summary of Significant Accounting Policies

Organization

Arista Networks, Inc. (together with our subsidiaries, “we,” “our,” "Arista," "Company" or “us”) is a supplier of cloud networking solutions that use software innovations to address the needs of large-scale internet companies, cloud service providers and next-generation enterprise. Our cloud networking solutions consist of our EOS, a set of network applications and our 1/2.5/5/10/25/40/50/100/400 Gigabit Ethernet switching and routing platforms. We are incorporated in the state of Delaware. Our corporate headquarters are located in Santa Clara, California, and we have wholly-owned subsidiaries throughout the world, including North America, Europe, Asia and Australia.

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Arista Networks, Inc. and its wholly owned subsidiaries and are prepared in accordance with GAAP. All significant intercompany accounts and transactions have been eliminated.

Certain reclassifications of prior period amounts were made in the current year to conform to the current period presentation.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported and disclosed in the consolidated financial statements and accompanying notes. Those estimates and assumptions include, but are not limited to, revenue recognition and deferred revenue; allowance for doubtful accounts, sales rebates and return reserves; valuation of goodwill and acquisition-related intangible assets, accounting for income taxes, including the recognition of deferred tax assets and liabilities related to an intra-entity transaction to sell our non-Americas economic and beneficial intellectual property, valuation allowance on deferred tax assets and reserves for uncertain tax positions; estimate of useful lives of long-lived assets including intangible assets; valuation of inventory and contract manufacturer/supplier liabilities; and the recognition and measurement of contingent liabilities. We evaluate our estimates and assumptions based on historical experience and other factors and adjust those estimates and assumptions when facts and circumstances dictate. Actual results could differ materially from those estimates.

Concentrations of Business and Credit Risk

We work closely with third-party contract manufacturers to manufacture our products. As of December 31, 2019, we had two contract manufacturing partners, who provided substantially all of our electronic manufacturing services. Our contract manufacturing partners deliver our products to our third party direct fulfillment facilities. We and our fulfillment partners then perform labeling, final configuration, quality assurance testing and shipment to our customers. Our products rely on key components, including certain integrated circuit components and power supplies, some of which our contract manufacturing partners purchase on our behalf from a limited number of suppliers, including certain sole source providers. We generally do not have guaranteed supply contracts with our component suppliers, and our manufacturing partners could delay shipments or cease manufacturing such products or selling them to us at any time. If we are unable to obtain a sufficient quantity of these components on commercially reasonable terms or in a timely manner, or if we are unable to obtain alternative sources for these components, sales of our products could be delayed or halted entirely, or we may be required to redesign our products. Quality or performance failures of our products or changes in our contractors’ or vendors’ financial or business condition could disrupt our ability to supply quality products to our customers. Any of these events could result in lost sales and damage to our end-customer relationships, which would adversely impact our business, financial condition and results of operations.

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash, cash equivalents, marketable securities, restricted cash, and accounts receivable. Our cash equivalents, restricted cash and marketable securities are invested in high quality financial instruments with banks and financial institutions. Such deposits may be in excess of insured limits provided on such deposits.

Our accounts receivable are unsecured and represent amounts due to us based on contractual obligations of our customers. We mitigate credit risk with respect to accounts receivable by performing ongoing credit evaluations of our customers to assess the probability of collection based on a number of factors, including past transaction experience with the customer, evaluation of their credit history, the credit limits extended, and review of the invoicing terms of the arrangement. In situations where a customer may be thinly capitalized and we have limited payment history with it, we will either establish a small credit limit or require it to prepay its purchases. We generally do not require our customers to provide collateral to support accounts receivable. We have recorded an allowance for doubtful accounts for those receivables that we have determined not to be collectible. We mitigate credit risk in respect to the notes receivable by performing ongoing credit evaluations of the borrower to assess the probability of collecting all amounts due to us under the existing contractual terms.

We market and sell our products through both our direct sales force and our channel partners, including distributors, value-added resellers, system integrators and original equipment manufacturer ("OEM") partners, and in conjunction with various technology partners. Significant customers are those which represent more than 10% of our total net revenue during the period or net accounts receivable balance at each respective balance sheet date. As of December 31, 2019, we had one customer who represented 39% of total accounts receivable. As of December 31, 2018, we had two customers who represented 35% and 10% of total accounts receivable, respectively. For the year ended December 31, 2019, there were two customers who represented 23% and 17% of our total revenue, respectively. For the years ended December 31, 2018 and 2017, there was one customer who represented 27% and 16% of our total revenue, respectively.

Cash and Cash Equivalents

We consider all highly liquid investments with maturities of three months or less at the time of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with various financial institutions and highly liquid investments in money market funds. Interest is accrued as earned. As of December 31, 2019 and 2018, we had restricted cash of $4.2 million for each year and that primarily included $4.0 million pledged as collateral representing a security deposit required for a facility lease. Our restricted cash is classified as other assets in our consolidated balance sheets.

Marketable Securities

We classify all highly liquid investments in debt and equity securities with maturities of greater than three months at the date of purchase as marketable securities. We have classified and accounted for our marketable securities as available-for-sale. We determine the appropriate classification of these investments at the time of purchase and reevaluate such designation at each balance sheet date. We may or may not hold securities with stated maturities greater than 12 months until maturity. After consideration of our risk versus reward objectives, as well as our liquidity requirements, we may sell these securities prior to their stated maturities. As we view these securities as available to support current operations, we classify securities with maturities beyond 12 months as current assets under the caption marketable securities in the accompanying consolidated balance sheets. We carry these securities at fair value, and report the unrealized gains and losses, net of taxes, as a component of stockholders' equity, except for unrealized losses determined to be other-than-temporary, which we record as other income (expense), net. We determine any realized gains or losses on the sale of marketable securities on a specific identification method, and we record such gains and losses as a component of interest and other income, net.

Accounts Receivable

Accounts receivable are recorded at the invoiced amount, net of allowances for doubtful accounts, and sales rebates and returns reserves. We estimate our allowance for doubtful accounts based upon the collectability of the receivables in light of historical trends, adverse situations that may affect our customers' ability to pay and prevailing economic conditions. This evaluation is done in order to identify issues which may impact the collectability of receivables and related estimated required allowance. Revisions to the allowance are recorded as an adjustment to bad debt expense. After appropriate collection efforts are exhausted, specific accounts receivable deemed to be uncollectible are charged against the allowance in the period they are deemed uncollectible. Recoveries of accounts receivable previously written-off are recorded as credits to bad debt expense. We primarily estimate our sales rebates and returns reserves based on historical rates applied against current period billings. Specific customer returns, rebates and allowances are considered when determining our estimates. Revisions to the reserves are recorded as adjustments to revenue.

Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. We apply fair value accounting for all financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis. These assets and liabilities include cash and cash equivalents, marketable securities, accounts receivable, accounts payable, and accrued liabilities. Cash equivalents, accounts receivable, accounts payable and accrued liabilities are stated at carrying amounts as reported in the consolidated financial statements, which approximate fair value due to their short-term nature.

Assets and liabilities recorded at fair value on a recurring basis in the accompanying consolidated balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair value. We use a fair value hierarchy to measure fair value, maximizing the use of observable inputs and minimizing the use of unobservable inputs. The three-tiers of the fair value hierarchy are as follows:

Level I—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level II—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level III—Unobservable inputs that are supported by little or no market data for the related assets or liabilities and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

Foreign Currency

The functional currency of our foreign subsidiaries is either the U.S. dollar or their local currency.

Transaction re-measurement - Assets and liabilities denominated in a currency other than a subsidiary's functional currency are re-measured into the subsidiary's functional currency using exchange rates in effect at the end of the reporting period, with gains and losses recorded in other income (expense), net in the consolidated statements of operations. To date, foreign currency transaction gains and losses and exchange rate fluctuations have not been material to our financial statements.

Translation - Assets and liabilities of subsidiaries denominated in foreign functional currencies are translated into U.S. dollars at the closing exchange rate on the balance sheet date and equity related balances are translated at historical exchange rates. Revenues, costs and expenses in foreign functional currencies are translated using average exchange rates that approximate those in effect during the period. Translation adjustments are accumulated as a separate component of accumulated other comprehensive income within stockholders' equity.

Inventory Valuation and Contract Manufacturer/Supplier Liabilities

Inventories primarily consist of finished goods and strategic components, primarily integrated circuits. Inventories are stated at the lower of cost (computed using the first-in, first-out method) and net realizable value. Manufacturing overhead costs and inbound shipping costs are included in the cost of inventory. We record a provision when inventory is determined to be in excess of anticipated demand, or obsolete, to adjust inventory to its estimated realizable value. For the years ended December 31, 2019, 2018 and 2017, we recorded charges of $41.2 million, $20.8 million and $28.1 million, respectively, within cost of product revenue for inventory write-downs.

Our contract manufacturers procure components and assemble products on our behalf based on our forecasts. We record a liability and a corresponding charge for non-cancellable, non-returnable purchase commitments with our contract manufacturers or suppliers for quantities in excess of our demand forecasts or that are considered obsolete due to manufacturing and engineering change orders resulting from design changes. For the year ended December 31, 2019 and 2017, we recorded a charge of $11.7 million and $21.2 million, respectively, within cost of product revenue for such liabilities with our contract manufacturers and suppliers. For the year ended December 31, 2018, we did not incur a net loss on such supplier liabilities.

We use significant judgment in establishing our forecasts of future demand and obsolete material exposures. These estimates depend on our assessment of current and expected orders from our customers, product development plans and current sales levels. If actual market conditions are less favorable than those projected by management, which may be caused by factors within and outside of our control, we may be required to increase our inventory write-downs and liabilities to our contract manufacturers and suppliers, 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.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful lives of the related assets, generally three years. Our leasehold improvements are depreciated over the shorter of the estimated useful lives of the improvements or the remaining lease term.

Investments in Privately-Held Companies

Our equity investments in privately-held companies without readily determinable fair values are measured using the measurement alternative, defined by ASC 321-*Investments-Equity Securities* as cost, less impairments, and adjusted up or down based on observable price changes in orderly transactions for identical or similar investments of the same issuer. Any adjustments resulting from impairments and/or observable price changes are recorded as “Other income (expense), net” in our consolidated statements of operations.

Impairment of Long-Lived Assets and Investments

The carrying amounts of our long-lived assets, including property and equipment and investments in privately held companies, are periodically reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. Recoverability of these assets is measured by comparison of the carrying amount of each asset to the future undiscounted cash flows the asset is expected to generate over their remaining lives. If the asset is considered to be impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired asset. We recognized impairment losses on certain private company investments during 2018. Refer to Note 5 for further discussion. No impairment of any other long-lived assets was identified for any of the periods presented.

Loss Contingencies

In the ordinary course of business, we are a party to claims and legal proceedings including matters relating to commercial, employee relations, business practices and intellectual property. In assessing loss contingencies, we use significant judgment and assumptions to estimate the likelihood of loss, impairment of an asset or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss. We record a provision for contingent losses when it is both probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We will 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 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.

Revenue Recognition

We generate revenue from sales of our products, which incorporate our EOS software and accessories such as cables and optics, to direct customers and channel partners together with post-contract customer support (“PCS”). We typically sell products and PCS in a single contract. We recognize revenue upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to be entitled to receive in exchange for those products or services. We apply the following five-step revenue recognition model:

- Identification of the contract, or contracts, with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognition of revenue when (or as) we satisfy the performance obligation

Post-Contract Customer Support

Post-contract support, which includes technical support, hardware repair and replacement parts beyond standard warranty, bug fixes, patches and unspecified upgrades on a when-and-if-available basis, is offered under renewable, fee-based contracts. We initially defer PCS revenue and recognize it ratably over the life of the PCS contract as there is no discernable pattern of delivery related to these promises. We do not provide unspecified upgrades on a set schedule and addresses customer requests for technical support if and when they arise, with the related expenses recognized as incurred. PCS contracts generally have a term of one to three years. We include billed but unearned PCS revenue in deferred revenue.

Contracts with Multiple Performance Obligations

Most of our contracts with customers, other than renewals of PCS, contain multiple performance obligations with a combination of products and PCS. Products and PCS generally qualify as distinct performance obligations. Our hardware includes EOS software, which together deliver the essential functionality of our products. For contracts which contain multiple performance obligations, we allocate revenue to each distinct performance obligation based on the standalone selling price (“SSP”). Judgment is required to determine the SSP for each distinct performance obligation. We use a range of amounts to estimate SSP for products and PCS sold together in a contract to determine whether there is a discount to be allocated based on the relative SSP of the various products and PCS.

If we do not have an observable SSP, such as when we do not sell a product or service separately, then SSP is estimated using judgment and considering all reasonably available information such as market conditions and information about the size and/or purchase volume of the customer. We generally use a range of amounts to estimate SSP for individual products and services based on multiple factors including, but not limited to the sales channel (reseller, distributor or end customer), the geographies in which our products and services are sold, and the size of the end customer.

We limit the amount of revenue recognition for contracts containing forms of variable consideration, such as future performance obligations, customer-specific returns, and acceptance or refund obligations. We include some or all of an estimate of the related at risk consideration in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recorded under each contract will not occur when the uncertainties surrounding the variable consideration are resolved.

Most of our contracts with customers have payment terms of 30 days with some large high volume customers having terms of up to 60 days. We have determined our contracts generally do not include a significant financing component because the Company and the customer have specific business reasons other than financing for entering into such contracts. Specifically, both we and our customers seek to ensure the customer has a simplified way of purchasing Arista products and services.

We account for multiple contracts with a single partner as one arrangement if the contractual terms and/or substance of those agreements indicate that they may be so closely related that they are, in effect, parts of a single contract.

We may occasionally accept returns to address customer satisfaction issues even though there is generally no contractual provision for such returns. We estimate returns for sales to customers based on historical returns rates applied against current-period shipments. Specific customer returns and allowances are considered when determining our sales return reserve estimate.

Our policy applies to the accounting for individual contracts. However, we have elected a practical expedient to apply the guidance to a portfolio of contracts or performance obligations with similar characteristics so long as such application would not differ materially from applying the guidance to the individual contracts (or performance obligations) within that portfolio. Consequently, we have chosen to apply the portfolio approach when possible, which we do not believe will happen frequently. Additionally, we will evaluate a portfolio of data, when possible, in various situations, including accounting for commissions, rights of return and transactions with variable consideration.

We report revenue net of sales taxes. We include shipping charges billed to customers in revenue and the related shipping costs are included in cost of product revenue.

Contract Balances

A contract asset is recognized when we have a contractual right to consideration for both completed and partially completed performance obligations that have not yet been invoiced. Contract assets are included in “Other current assets” on our consolidated balance sheets.

A contract liability is recognized when we have received customer payments in advance of our satisfaction of a performance obligation under a contract that is cancellable. Contract liabilities are included in “Other current liabilities” and “Other long-term liabilities” on our consolidated balance sheets.

Assets Recognized from Costs to Obtain a Contract with a Customer

Effective January 1, 2018 in connection with the adoption of ASC 606, we recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We have determined that certain sales commissions earned by our sales force meet the requirements for capitalization. These costs are deferred and then amortized over a period of benefit that we have determined to be five years. Total capitalized costs to obtain a contract are included in other current and long-term assets on our consolidated balance sheets. As of December 31, 2019 and 2018, total capitalized costs to obtain contracts was $8.9 million and $6.4 million, respectively.

Research and Development Expenses

Costs related to the research, design and development of our products are charged to research and development expenses as incurred. Software development costs are capitalized beginning when a product’s technological feasibility has been established and ending when the product is available for general release to customers. Generally, our products are released soon after technological feasibility has been established. As a result, costs incurred subsequent to achieving technological feasibility have not been significant and accordingly, all software development costs have been expensed as incurred.

Warranty

We offer a one-year warranty on all of our hardware products and a 90-day warranty against defects in the software embedded in the products. We use judgment and estimates when determining warranty costs based on historical costs to replace product returns within the warranty period at the time we recognize revenue. We accrue for potential warranty claims at the time of shipment as a component of cost of revenues based on historical experience and other relevant information. We reserve for specifically identified products if and when we determine we have a systemic product failure. Although we engage in extensive product quality programs, if actual product failure rates or use of materials differ from estimates, additional warranty costs may be incurred, which could reduce our gross margin. The accrued warranty liability is recorded in accrued liabilities in the accompanying consolidated balance sheets.

Segment Reporting

We develop, market and sell cloud networking solutions, which consist of our Gigabit Ethernet switches and related software. We engage in one business activity and there are no segment managers who are held accountable for operations or operating results below the Company level. Our chief operating decision maker is our Chief Executive Officer, who reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. Accordingly, we have determined that we operate as one reportable segment.

Stock-Based Compensation

Compensation expense related to stock-based transactions is measured and recognized in the financial statements based on the fair value of the equity granted on a straight-line basis over the requisite service periods of the awards, which typically ranges from two to five years. We account for forfeitures on all stock-based transactions as they occur.

Income Taxes

Income tax expense is an estimate of current income taxes payable in the current fiscal year based on reported income before income taxes. Deferred income taxes reflect the effect of temporary differences and carryforwards that we recognize for financial reporting and income tax purposes.

We account for income taxes under the liability approach for deferred income taxes, which requires recognition of deferred income tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements, but have not been reflected in our taxable income. Estimates and judgments occur in the calculation of certain tax liabilities and in the determination of the recoverability of certain deferred income tax assets, which arise from temporary differences and carryforwards. Deferred income tax assets and liabilities are measured using the currently enacted tax rates that apply to taxable income in effect for the years in which those tax assets are expected to be realized or settled. We regularly assess the likelihood that our deferred income tax assets will be realized based on the positive and negative evidence available. We record a valuation allowance to reduce the deferred tax assets to the amount that we are more likely than not to realize.

We believe that we have adequately reserved for our uncertain tax positions, although we can provide no assurance that the final tax outcome of these matters will not be materially different. 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 and could have a material impact on our financial condition and results of operations. The provision for income taxes includes the effects of any reserves that we believe are appropriate, as well as the related net interest and penalties.

We regularly review our tax positions and benefits to be realized. We recognize tax liabilities based upon our estimate of whether, and to the extent to which, additional taxes will be due when such estimates are more likely than not to be sustained. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. We recognize interest and penalties related to income tax matters as income tax expense.

Net Income per Share of Common Stock

Basic and diluted net income per share attributable to common stockholders is calculated in conformity with the two-class method required for participating securities. Our shares of common stock subject to repurchase are considered participating securities. Under the two-class method, net income attributable to common stockholders is calculated as net income less earnings attributable to participating securities. In computing diluted net income attributable to common stockholders, undistributed earnings are re-allocated to reflect the potential impact of dilutive securities. Basic net income per common share is computed by dividing the net income attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income per share attributable to common stockholders is computed by dividing the net income attributable to common stockholders by the weighted-average number of common shares outstanding, including potential dilutive common shares assuming the dilutive effect of outstanding stock options, restricted stock units, and employee stock purchase plan using the treasury stock method. For purposes of this calculation, these amounts are excluded from the calculation of diluted net income per share of common stock if their effect is antidilutive.

Business Combinations

We use the acquisition method to account for our business combinations in accordance with ASC 805 - *Business Combinations* (“ASC 805”). We allocate the total fair value of purchase consideration to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. The excess of the consideration transferred over the fair values of the assets acquired and liabilities assumed is recorded as goodwill. The results of operations of the acquired businesses are included in our consolidated financial statements from the date of acquisition. Acquisition-related costs and restructuring costs are expensed as incurred.

During the measurement period, which is not to exceed one year from the acquisition date, we may record adjustments to the acquired assets and liabilities assumed, with a corresponding offset to goodwill or the preliminary purchase price, to reflect new information obtained about facts and circumstances that existed as of the acquisition date. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Goodwill and Intangible Assets

We perform our annual goodwill impairment analysis in the fourth quarter of each year or more frequently if there are any events or circumstances that would indicate the carrying amount is not recoverable. We first perform a qualitative assessment to determine if it’s necessary to perform a quantitative assessment. If after our qualitative assessment we determine it is more likely than not that the fair value of the Company is less than its carrying amount, then a quantitative test is performed by comparing the fair value of the Company with its carrying amount. We would recognize an impairment loss for the amount by which the carrying amount exceeds the fair value.

Intangible assets are carried at cost less accumulated amortization. All intangible assets have been determined to have definite lives and are amortized on a straight-line basis over their estimated useful lives, ranging from one to seven years. Intangible assets are reviewed for impairment periodically or whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable.

Recently Adopted Accounting Pronouncements

Leases

In February 2016, the Financial Accounting Standards Board (“FASB”) issued new authoritative guidance on lease accounting (“ASC 842”). Under the guidance, lessees are required to recognize assets and lease liabilities on the balance sheet for most leases, including operating leases, and provide enhanced disclosures. We adopted the guidance on January 1, 2019 using the modified retrospective transition method and initially applied the transition provisions at January 1, 2019, which allows us to continue to apply the legacy guidance in ASC 840 - *Leases* ("ASC 840') for periods prior to 2019, and recognized a cumulative-effect adjustment to retained earnings on the date of adoption. We elected the package of transition practical expedients, which, among other things, allows us to keep the historical lease classifications and not have to reassess the lease classification for any existing leases as of the date of adoption. We also made the following accounting policy elections as allowed by ASC 842:

- to apply the short-term lease exception, which allows us to keep leases with an initial term of twelve months or less off the balance sheet.
- to account for each separate lease component of a contract and its associated non-lease components as a single lease component for all our leases.

As a result of the adoption, we recognized operating leases that were previously not recognized on the consolidated balance sheets. In addition, we derecognized the assets and the lease financing liabilities previously recorded for our headquarters building under a build-to-suit lease. Under ASC 842, this lease is recognized as an operating lease in our condensed consolidated financial statements beginning in the first quarter of 2019. The table below summarizes the impact of the adoption of ASC 842 on the condensed consolidated balance sheet as of January 1, 2019 (in thousands).

Balance Sheet Line Item	December 31, 2018	Adjustments for the Adoption of ASC 842		January 1, 2019
		Derecognition of Build-to-Suit Lease	Recognition of Operating Leases (1)	
Property and equipment, net	$ 75,355	$ (32,806)	$ —	$ 42,549
Operating lease right-of-use assets	—	—	93,207	93,207
Deferred tax assets	126,492	(1,165)	—	125,327
Other current liabilities	30,907	(2,242)	12,391	41,056
Operating lease liabilities, non-current	—	—	88,230	88,230
Finance lease liabilities, non-current	35,431	(35,431)	—	—
Other long-term liabilities	31,851	—	(7,414)	24,437
Retained earnings	1,190,803	3,702	—	1,194,505

(1) Includes an operating lease for our corporate headquarters building under the build-to-suit arrangement, which was accounted for as a financing lease prior to 2019 and derecognized on January 1, 2019 upon the adoption of ASC 842.

Recent Accounting Pronouncements Not Yet Effective

Credit Losses of Financial Instruments

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, to replace the incurred loss impairment methodology under current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The proposed standard requires a financial asset measured at amortized cost basis to be presented at the net amount expected to be collected. For trade receivables, we will be required to estimate lifetime expected credit losses. For available-for-sale debt securities, we will be required to recognize an allowance for credit losses rather than a reduction to the carrying value of the asset. The guidance will be effective for us in our first quarter of 2020, and will be applied on a modified retrospective basis. We have evaluated the new accounting guidance and do not anticipate that it will have a material impact on our consolidated statement of operations or consolidated statements of cash flows.

2. Business Combinations

During fiscal 2018, we acquired Mojo and Metamako in order to extend our cognitive cloud networking architecture and to improve our next generation platforms for low-latency applications.

The total fair value of consideration transferred for these acquisitions was approximately $118.7 million, which consisted of $103.1 million in cash and $15.6 million for the fair value of 58,072 shares of our common stock issued. The following table summarizes our final purchase price allocation of the two acquisitions, in aggregate, based on the estimated fair value of the assets acquired and liabilities assumed at their respective acquisition dates (in thousands):

	Purchase Price Allocation
Cash and cash equivalents	$ 4,953
Other tangible assets	23,872
Liabilities	(28,707)
Intangible assets	63,720
Goodwill	54,855
Net assets acquired	$ 118,693

The acquired intangible assets are amortized on a straight-line basis over their estimated useful lives as we believe this method most closely reflects the pattern in which the economic benefits of the assets will be consumed. The following table shows the valuation of the intangible assets acquired (in thousands) along with their estimated useful lives.

	Acquisition Date Fair Value	Estimated Useful Life
Developed technology	$ 52,510	5 years
Customer relationships	7,080	7 years
Trade name	2,470	3 years
Others	1,660	1 year
Total intangible assets acquired	$ 63,720	

The goodwill of 54.9 million is primarily attributable to the expected synergies created by incorporating the solutions of the acquired businesses into our technology platform, and the value of the assembled workforce. The goodwill is not deductible for income taxes purposes.

3. Fair Value Measurements

We measure and report our cash equivalents, restricted cash, and available-for-sale marketable securities at fair value on a recurring basis. The following tables summarize the amortized costs, unrealized gains and losses, and fair value of these financial assets by significant investment category and their level within the fair value hierarchy (in thousands):

	December 31, 2019						
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Level I	Level II	Level III
Financial Assets:							
Cash Equivalents:							
Money market funds	$ 562,580	$ —	$ —	$ 562,580	$ 562,580	$ —	$ —
Certificates of deposits [1]	4,001	—	—	4,001	—	4,001	—
	566,581	—	—	566,581	562,580	4,001	—
Marketable Securities:							
Commercial paper	66,717	—	—	66,717	—	66,717	—
Certificates of deposits [1]	3,000	—	—	3,000	—	3,000	—
U.S. government notes	518,884	414	(20)	519,278	519,278	—	—
Corporate bonds	787,741	2,392	(73)	790,060	—	790,060	—
Agency securities	233,491	577	(41)	234,027	—	234,027	—
	1,609,833	3,383	(134)	1,613,082	519,278	1,093,804	—
Other Assets:							
Money market funds - restricted	4,229	—	—	4,229	4,229	—	—
Total Financial Assets	$ 2,180,643	$ 3,383	$ (134)	$ 2,183,892	$ 1,086,087	$ 1,097,805	$ —

(1) As of December 31, 2019, all of our certificates of deposits were domestic deposits.

	December 31, 2018						
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Level I	Level II	Level III
Financial Assets:							
Cash Equivalents:							
Money market funds	$ 322,080	$ —	$ —	$ 322,080	$ 322,080	$ —	$ —
Marketable Securities:							
Commercial paper	59,479	—	—	59,479	—	59,479	—
Certificates of deposits [(1)]	5,000	—	—	5,000	—	5,000	—
U.S. government notes	308,946	118	(286)	308,778	308,778	—	—
Corporate bonds	660,353	264	(1,399)	659,218	—	659,218	—
Agency securities	273,993	240	(511)	273,722	—	273,722	—
	1,307,771	622	(2,196)	1,306,197	308,778	997,419	—
Other Assets:							
Money market funds - restricted	4,214	—	—	4,214	4,214	—	—
Total Financial Assets	$ 1,634,065	$ 622	$ (2,196)	$ 1,632,491	$ 635,072	$ 997,419	$ —

(1) As of December 31, 2018, all of our certificates of deposits were domestic deposits.

We did not realize any other-than-temporary losses on our marketable securities for the years ended December 31, 2019 and 2018. As of December 31, 2019 and 2018, total unrealized losses of our marketable securities that had been in a continuous unrealized loss portion were immaterial. We invest in marketable securities that have maximum maturities of up to two years and are generally deemed to be low risk based on their credit ratings from the major rating agencies. The longer the duration of these marketable securities, the more susceptible they are to changes in market interest rates and bond yields. As interest rates increase, those marketable securities purchased at a time with lower interest rates show a mark-to-market unrealized loss. We expect to realize the full value of these investments upon maturity or sale and therefore, we do not consider any of our marketable securities to be other-than-temporarily impaired as of December 31, 2019.

As of December 31, 2019, the contractual maturities of our investments did not exceed 24 months. The fair values of available-for-sale marketable securities, by remaining contractual maturity, are as follows (in thousands):

	December 31, 2019
Due in 1 year or less	$ 915,069
Due in 1 year through 2 years	698,013
Total marketable securities	$ 1,613,082

The weighted-average remaining duration of our current marketable securities is approximately 0.8 years as of December 31, 2019.

4. Financial Statements Details

Cash, Cash Equivalents and Restricted Cash

The following table is a reconciliation of cash, cash equivalents and restricted cash reported within the accompanying consolidated balance sheets that sum to the total of the same such amounts shown in the accompanying consolidated statements of cash flows (in thousands):

	December 31, 2019	December 31, 2018
Cash and cash equivalents	$ 1,111,286	$ 649,950
Restricted cash included in other assets	4,229	4,214
Total cash, cash equivalents and restricted cash	$ 1,115,515	$ 654,164

Accounts Receivable, net

Accounts receivable, net consists of the following (in thousands):

	December 31, 2019	December 31, 2018
Accounts receivable	$ 398,147	$ 340,897
Allowance for doubtful accounts	(638)	(507)
Product sales rebate and returns reserve	(5,522)	(8,613)
Accounts receivable, net	$ 391,987	$ 331,777

Allowance for Doubtful Accounts

Activity in the allowance for doubtful accounts consists of the following (in thousands):

	Year Ended December 31, 2019	2018	2017
Balance at the beginning of year	$ 507	$ 112	$ 204
Additions charged to expense	221	500	17
Deductions/write-offs	(90)	(105)	(109)
Balance at the end of year	$ 638	$ 507	$ 112

Product Sales Rebate and Returns Reserve

Activity in the product sales rebate and returns reserve consists of the following (in thousands):

	Year Ended December 31, 2019	2018	2017
Balance at the beginning of year	$ 8,613	$ 7,423	$ 1,317
Additions charged against revenue	2,032	4,269	17,371
Consumption	(5,123)	(3,079)	(11,265)
Balance at the end of year	$ 5,522	$ 8,613	$ 7,423

Inventories

Inventories consist of the following (in thousands):

	December 31,	
	2019	2018
Raw materials	$ 96,712	$ 76,795
Finished goods	147,113	187,762
Total inventories	$ 243,825	$ 264,557

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consists of the following (in thousands):

	December 31,	
	2019	2018
Inventory deposit	$ 13,716	$ 14,639
Prepaid income taxes	20,153	38,636
Other current assets	64,464	95,730
Other prepaid expenses and deposits	13,123	13,316
Total prepaid expenses and other current assets	$ 111,456	$ 162,321

Property and Equipment, net

Property and equipment, net consists of the following (in thousands):

	December 31,	
	2019	2018
Equipment and machinery	$ 64,748	$ 55,912
Computer hardware and software	36,627	30,566
Furniture and fixtures	3,774	3,697
Leasehold improvements	31,235	36,447
Building	—	35,154
Construction-in-process	265	3,591
Property and equipment, gross	136,649	165,367
Less: accumulated depreciation	(97,376)	(90,012)
Property and equipment, net	$ 39,273	$ 75,355

Depreciation expense was $19.0 million, $21.6 million and $20.2 million for the years ended December 31, 2019, 2018 and 2017, respectively. On January 1, 2019, upon the adoption of ASC 842, we derecognized the building and certain leasehold improvements for our corporate headquarters that were previously capitalized under a build-to-suit arrangement. See Note 7 for further details.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	December 31,	
	2019	2018
Accrued payroll related costs	$ 80,133	$ 70,755
Accrued manufacturing costs	31,920	31,336
Accrued product development costs	11,410	6,988
Accrued warranty costs	6,742	5,362
Accrued professional fees	6,335	5,678
Accrued taxes	1,716	839
Other	1,993	2,296
Total accrued liabilities	$ 140,249	$ 123,254

Warranty Accrual

The following table summarizes the activity related to our accrued liability for estimated future warranty costs (in thousands):

	Year Ended December 31,	
	2019	2018
Warranty accrual, beginning of year	$ 5,362	$ 7,415
Liabilities accrued for warranties issued during the year	7,169	3,565
Warranty costs incurred during the year	(5,789)	(5,618)
Warranty accrual, end of year	$ 6,742	$ 5,362

Contract Balances

The following table summarizes the beginning and ending balances of our contract assets (in thousands):

	Year Ended December 31,	
	2019	2018
Contract assets, beginning balance	$ 6,341	$ —
Contract assets, ending balance	25,565	6,341

The following table summarizes the activity related to our contract liabilities (in thousands):

	Year Ended December 31,	
	2019	2018
Contract liabilities, beginning balance	$ 32,595	$ 16,521
Less: Revenue recognized from beginning balance	(12,887)	(7,561)
Less: Beginning balance reclassified to deferred revenue	(894)	(371)
Add: Contract liabilities recognized	42,236	24,006
Contract liabilities, ending balance	$ 61,050	$ 32,595

As of December 31, 2019 and 2018, $23.4 million and $13.5 million of our contract liabilities was included in “Other current liabilities” with the remaining balance included in “Other long-term liabilities”.

Deferred Revenue and Performance Obligations

Deferred revenue is comprised mainly of unearned revenue related to multi-year PCS contracts, services and product deferrals related to acceptance clauses. The following table summarizes the activity related to our deferred revenue (in thousands):

	Year Ended December 31, 2019
Deferred revenue, beginning balance	$ 587,227
Less: Revenue recognized from beginning balance	(351,617)
Add: Deferral of revenue in current period, excluding amounts recognized during the period	339,678
Deferred revenue, ending balance	$ 575,288

Revenue from Remaining Performance Obligations

Revenue from remaining performance obligations represents contracted revenue that has not yet been recognized, which primarily includes contract liabilities and deferred revenue that will be recognized as revenue in future periods. As of December 31, 2019, approximately $691.9 million of revenue is expected to be recognized from remaining performance obligations. We expect to recognize revenue on approximately 78% of these remaining performance obligations over the next 2 years and 22% during years 3 to 5.

Other Income (Expense), Net

Other income (expense), net consists of the following (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Other income (expense), net:			
Interest income	$ 51,144	$ 31,666	$ 8,093
Interest expense	—	(2,701)	(2,780)
Gain (loss) on investments in privately-held companies	5,427	(13,800)	—
Other income (expense)	(75)	289	(825)
Total other income (expense), net	$ 56,496	$ 15,454	$ 4,488

5. Investments

Investments in Privately-Held Companies

Our investments are in the equity of privately-held companies, which do not have readily determinable fair values. These non-marketable equity securities are initially recorded at cost, and subsequently remeasured to fair value on a non-recurring basis based on observable price changes in orderly transactions for similar investments of the same issuer, or for impairment. These investments are classified within Level III of the fair value hierarchy as we estimate the value based on valuation methods using the observable transaction price at the transaction date and other significant unobservable inputs, such as volatility, rights, and obligations related to those investments. In addition, the valuation requires management judgment due to the absence of market price and inherent lack of liquidity. The following table summarizes the activity related to our investments in privately-held companies held as of December 31, 2019 and 2018 (in thousands):

	December 31, 2019	December 31, 2018
Cost of investment	$ 3,000	$ 44,136
Cumulative impairment	—	(15,000)
Cumulative upward adjustment	1,150	1,200
Carrying amount of investment	$ 4,150	$ 30,336

During the year ended December 31, 2019, we recorded a realized gain of $4.3 million upon the sale of one of our investments. In each of the years ended December 31, 2019 and 2018, we recorded $1.2 million of unrealized gains. These unrealized gains were recorded on investments that were re-measured to fair value as of the date observable transactions occurred. In addition, during the year ended December 31, 2018, we recorded an impairment of $15.0 million on one of our investments.

6. Goodwill and Acquisition-Related Intangible Assets

Goodwill

Goodwill was recorded as a result of our acquisition of Mojo and Metamako in the third quarter of 2018. See Note 2 for details.

In the fourth quarter of 2019, we completed an annual goodwill impairment analysis. Based on our assessment of the qualitative factors, management concluded that the fair value of the Company was not more likely than not less than its carrying amount as of December 31, 2019. Subsequent to this 2019 annual impairment test, we have not identified significant events or circumstances negatively affecting the valuation of goodwill. As of December 31, 2019, there was no impairment to the carrying value of our goodwill.

Acquisition-Related Intangible Assets

The following table presents details of our acquisition-related intangible assets as of December 31, 2019 and 2018 (in thousands):

	December 31, 2019			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Useful Life (In Years)
Developed technology	$ 52,510	$ (14,326)	$ 38,184	3.7
Customer relationships	7,080	(1,387)	5,693	5.8
Trade name	2,470	(1,112)	1,358	1.7
Others	1,660	(1,660)	—	0.0
Total	$ 63,720	$ (18,485)	$ 45,235	3.9

	December 31, 2018			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Useful Life (In Years)
Developed technology	$ 52,510	$ (3,824)	$ 48,686	4.6
Customer relationships	7,080	(375)	6,705	6.6
Trade name	2,470	(289)	2,181	2.7
Others	1,660	(622)	1,038	0.6
Total	$ 63,720	$ (5,110)	$ 58,610	4.7

Amortization expense related to acquisition-related intangible assets was $13.4 million and $5.1 million for the years ended December 31, 2019 and 2018, respectively.

As of December 31, 2019, future estimated amortization expense related to the acquired-related intangible assets is as follows (in thousands):

Years Ending December 31,	Future Amortization Expense
2020	$ 12,337
2021	12,048
2022	11,513
2023	7,690
2024	1,011
Thereafter	636
Total	$ 45,235

7. Commitments and Contingencies

Operating Leases

We lease various offices and data centers in North America, Europe, Asia and Australia under non-cancelable operating lease arrangements that expire on various dates through 2028. Some of our leases include options to extend the term of such leases for a period from three months to up to 10 years and/or options to early terminate the leases. As of December 31, 2019, we did not include any such options in determining the lease terms because we were not reasonably certain that we would exercise those options. Most of our leases require us to pay certain operating expenses in addition to base rent, such as taxes, repairs, and insurance, and contain renewal and escalation clauses.

Build-to-Suit Lease

In August 2012, we executed a lease for a building then under construction in Santa Clara, California to serve as our headquarters. The lease term is 120 months and commenced in August 2013. Based on the terms of the lease agreement and due to our involvement in certain aspects of the construction, we were deemed the accounting owner of the building during the construction period in accordance with ASC 840. As a result, we recognized assets under construction and corresponding liabilities on the consolidated balance sheet. Upon completion of the construction in 2013, we concluded that we had forms of continued economic involvement in the facility, and therefore did not meet with the provisions for sale-leaseback accounting. Pursuant to ASC 840, we continued to carry the assets and liabilities capitalized during the construction period and accounted for the lease as a capital lease for the building and an operating lease for the underlying land.

The following table summarizes the supplemental balance sheet information related to our operating leases as of December 31, 2019 (in thousands).

	Financial Statement Classification	December 31, 2019
Right-of-use assets:		
Operating lease right-of-use assets	Operating lease right-of-use assets	$ 87,770
Lease liabilities:		
Operating lease liabilities, current	Other current liabilities	16,052
Operating lease liabilities, non-current	Operating lease liabilities, non-current	83,022
Total operating lease liabilities		$ 99,074

The following table summarizes our lease costs for the year ended December 31, 2019 (in thousands).

	Financial Statement Classification	Year Ended December 31, 2019
Operating lease costs:		
Fixed lease costs	Operating expenses	$ 22,544
Variable lease costs	Operating expenses	6,255
Total operating lease costs		$ 28,799

The operating lease costs in the table above include costs for long-term leases and short-term leases. Total short-term lease costs were immaterial. Fixed lease costs include expenses recognized for base rent payments on a straight-lined basis. Variable lease costs primarily include maintenance, utilities and operating expenses that are incremental to the fixed base rent payments, and are excluded from the calculation of operating lease liabilities and ROU assets. For the year ended December 31, 2019, cash paid for amounts associated with our operating lease liabilities were approximately $18.6 million which were classified as operating activities in the condensed consolidated statements of cash flows.

Prior to 2019, we recognized rent expense for our operating leases under the legacy guidance ASC 840. For the year ended December 31, 2018, rent expense for all operating leases amounted to $12.9 million, and did not include maintenance, utilities and other operating expenses in accordance with ASC 840.

The following table shows our undiscounted future fixed payment obligations under our recognized operating leases and a reconciliation to the operating lease liabilities as of December 31, 2019 (in thousands).

	December 31, 2019
2020	$ 20,563
2021	21,303
2022	21,491
2023	17,702
2024	9,786
2025 and thereafter	26,220
Total future fixed operating lease payments	117,065
Less:	
Imputed interest	(17,991)
Total operating lease liabilities	$ 99,074

	December 31, 2019
Weighted-average remaining lease term — operating leases	6.0 years
Weighted-average discount rate — operating leases	5.1%

Purchase Commitments

We outsource most of our manufacturing and supply chain management operations to third-party contract manufacturers, who procure components and assemble products on our behalf based on our forecasts in order to reduce manufacturing lead times and ensure adequate component supply. We issue purchase orders to our contract manufacturers for finished product and a significant portion of these orders consist of firm non-cancellable commitments. In addition, we purchase strategic component inventory from certain suppliers under purchase commitments that in some cases are non-cancellable, including integrated circuits, which are consigned to our contract manufacturers. As of December 31, 2019, we had non-cancellable purchase commitments of $294.7

million, of which $279.2 million was to our contract manufacturers and suppliers. In addition, we have provided deposits to secure our obligations to purchase inventory. We had $16.5 million and $17.4 million in deposits as of December 31, 2019 and 2018, respectively. These deposits are classified in 'Prepaid expenses and other current assets' and 'Other assets' in our accompanying consolidated balance sheets.

Guarantees

We have entered into agreements with some of our direct customers and channel partners that contain indemnification provisions relating to potential situations where claims could be alleged that our products infringe the intellectual property rights of a third party. We have at our option and expense the ability to repair any infringement, replace product with a non-infringing equivalent-in-function product or refund our customers all or a portion of the value of the product. Other guarantees or indemnification agreements include guarantees of product and service performance and standby letters of credit for leased facilities and corporate credit cards. We have not recorded a liability related to these indemnification and guarantee provisions and our guarantee and indemnification arrangements have not had any significant impact on our consolidated financial statements to date.

Legal Proceedings

OptumSoft, Inc. Settlement

On April 4, 2014, OptumSoft filed a lawsuit against us in the Superior Court of California, Santa Clara County titled OptumSoft, Inc. v. Arista Networks, Inc., in which it asserts (i) ownership of certain components of our EOS network operating system pursuant to the terms of a 2004 agreement between the companies; and (ii) breaches of certain confidentiality and use restrictions in that agreement. Under the terms of the 2004 agreement, OptumSoft provided us with a non-exclusive, irrevocable, royalty-free license to software delivered by OptumSoft comprising a software tool used to develop certain components of EOS and a runtime library that is incorporated into EOS. The 2004 agreement places certain restrictions on our use and disclosure of the OptumSoft software and gives OptumSoft ownership of improvements, modifications and corrections to, and derivative works of, the OptumSoft software that we develop.

The parties tried Phase I of the case, relating to contract interpretation and application of the contract to certain claimed source code, in September 2015. On March 23, 2016, the Court issued a Final Statement of Decision Following Phase I Trial, in which it agreed with and adopted our interpretation of the 2004 agreement and held that we, and not OptumSoft, own all the software at issue in Phase I. The remaining issues that were not addressed in the Phase I trial were set to be tried in Phase II, including the application of the Court’s interpretation of the 2004 agreement to any other source code that OptumSoft claims to own and the trade secret misappropriation and confidentiality claims.

On September 24, 2019, the Company and OptumSoft entered into a settlement agreement resolving all the issues that were set to be tried in Phase II of the litigation. Under the settlement agreement, OptumSoft could still pursue its appeal of the Court’s Final Statement of Decision Following Phase I Trial, and pursue any further litigation that may result, but granted the Company a release on all other outstanding claims.

On December 6, 2019, the Company and OptumSoft entered into a settlement agreement resolving the remaining issues in the litigation.

GlobalFoundries Litigation

On August 26, 2019, GlobalFoundries U.S. Inc. (“GlobalFoundries”) filed complaints in the International Trade Commission and federal court against TSMC and numerous companies that sell products incorporating semiconductor devices manufactured by TSMC, including Arista, Broadcom, NVIDIA, Apple, Asus, Cisco, and Lenovo. The complaints allege that these semiconductor devices infringe four GlobalFoundries patents relating to semiconductor manufacturing techniques. In our case, GlobalFoundries has accused the merchant silicon we purchase from Broadcom of infringement. On October 28, 2019, TSMC and GlobalFoundries entered into a cross-license agreement to settle the litigation.

Other Matters

In the ordinary course of business, we are a party to other claims and legal proceedings including matters relating to commercial, employee relations, business practices and intellectual property.

We record a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. As of December 31, 2019, provisions recorded for contingent losses related to other claims and matters have not been significant. Based on currently available information, management does not believe that any additional liabilities relating to other unresolved matters are probable or that the amount of any resulting loss is estimable, and believes these other matters are not likely, individually and in the aggregate, to have a material adverse effect on our financial position, results of operations or cash flows. However, litigation is subject to inherent uncertainties and our view of these matters may change in the future. Were an unfavorable outcome to occur, there exists the possibility of a material adverse impact on our financial position, results of operations or cash flows for the period in which the unfavorable outcome occurs, and potentially in future periods.

8. Stockholders' Equity

Stock Repurchase Program

In April 2019, our board of directors authorized a $1.0 billion stock repurchase program. This authorization allows us to repurchase shares of our common stock opportunistically and is funded from working capital. Repurchases may be made at management's discretion from time to time on the open market, through privately negotiated transactions, transactions structured through investment banking institutions, block purchases, trading plans under Rule 10b5-1 of the Exchange Act, or a combination of the foregoing. The Repurchase Program, which expires in April 2022, does not obligate us to acquire any of our common stock, and may be suspended or discontinued by us at any time without prior notice. As of December 31, 2019, the remaining authorized amount for stock repurchases under this program was approximately $733.9 million.

A summary of the stock repurchase activity under the Repurchase Program for the year ended December 31, 2019 is as follows (in thousands, except per share amounts):

	Year Ended December 31,	
	2019	
Aggregate purchase price	$	266,142
Shares repurchased		1,189
Average price paid per share	$	223.57

The aggregate purchase price of repurchased shares of our common stock is recorded as a reduction to retained earnings. All shares repurchased under the Repurchase Program have been retired.

2014 Equity Incentive Plan

In April 2014, the board of directors and stockholders approved the 2014 Equity Incentive Plan (the "2014 Plan"), effective on the first day that our common stock was publicly traded, and simultaneously terminated the 2004 and 2011 equity plans as to future grants. However, these plans will continue to govern the terms and conditions of the outstanding options previously granted thereunder.

Awards granted under the 2014 Plan could be in the form of Incentive Stock Options ("ISOs"), Nonstatutory Stock Options ("NSOs"), Restricted Stock Units ("RSUs"), Restricted Stock Awards ("RSAs") or Stock Appreciation Rights ("SARs"). The number of shares available for grant and issuance under the 2014 Plan increases automatically on January 1 of each year commencing with 2016 by the number of shares equal to 3% of the outstanding shares of our common stock on the immediately preceding December 31, but not to exceed 12,500,000 shares (the "2014 Plan Evergreen Increase"), unless the board of directors, in its discretion, determines to make a smaller increase. Our board of directors determined not to authorize the 2014 Plan Evergreen Increase that would have occurred on January 1, 2019. As of December 31, 2019, there remained approximately 20.8 million shares available for issuance under the 2014 Plan. On February 3, 2020, our board of directors authorized an increase of 2,291,660 shares to shares available for issuance under the 2014 Plan effective January 1, 2020.

2014 Employee Stock Purchase Plan

In April 2014, the board of directors and stockholders approved the 2014 Employee Stock Purchase Plan (the "ESPP"). The ESPP became effective on the first day that our common stock was publicly traded. The number of shares reserved for issuance under the ESPP increases automatically on January 1 of each year by the number of shares equal to 1% of our shares outstanding immediately preceding December 31, but not to exceed 2,500,000 shares, unless the board of directors, in its discretion, determines to make a smaller increase. Effective January 1, 2019, our board of directors authorized an increase of 756,679 shares to shares available for issuance under the ESPP. As of December 31, 2019, there remained 3,192,774 shares available for issuance under the ESPP. On February 3, 2020, our board of directors authorized an increase of 763,886 shares to shares available for issuance under the ESPP effective January 1, 2020.

Under our 2014 ESPP eligible employees are permitted to acquire shares of our common stock at 85% of the lower of the fair market value of our common stock on the first trading day of each offering period or on the exercise date. Each offering period will be approximately two years starting on the first trading date after February 15 and August 15 of each year. Participants may purchase shares of common stock through payroll deductions up to 10% of their eligible compensation, subject to Internal Revenue Service mandated purchase limits.

During the year ended December 31, 2019, we issued 97,343 shares at an average purchase price of $184.70 under our ESPP.

Stock Option Activities

The following table summarizes the option activities under our stock plans and related information (in thousands, except years and per share amounts):

	Number of Shares Underlying Outstanding Options	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value
Balance—December 31, 2018	5,899	$ 37.09	5.2	$ 1,027,741
Options granted	76	226.53		
Options exercised	(1,341)	29.38		
Options canceled	(70)	37.86		
Balance—December 31, 2019	4,564	$ 42.50	4.4	$ 740,387
Vested and exercisable—December 31, 2019	2,755	$ 28.22	3.9	$ 482,712

The weighted-average grant-date fair value of options granted during the year ended December 31, 2019, 2018 and 2017 was $107.42, $121.18 and $40.17 per share, respectively. The aggregate intrinsic value of options exercised during the year ended December 31, 2019, 2018 and 2017 was $323.1 million, $283.8 million and $307.7 million. The total fair value of options vested for the years ended December 31, 2019, 2018 and 2017 was approximately $23.0 million, $31.9 million and $30.7 million, respectively.

Restricted Stock Unit (RSU) Activities

A summary of the RSU activities under our 2014 Plan and changes during the reporting period and a summary of related information are presented below (in thousands, except years and per share amounts):

	Number of Shares	Weighted-Average Grant Date Fair Value Per Share
Unvested balance—December 31, 2018	1,308	$ 150.60
RSUs granted	360	242.13
RSUs vested	(513)	126.36
RSUs forfeited/canceled	(85)	183.90
Unvested balance—December 31, 2019	1,070	$ 190.35

The total fair value of RSUs vested for the years ended December 31, 2019, 2018 and 2017 was approximately $65.7 million, $52.5 million, and $35.4 million, respectively.

Shares Available for Grant

The following table presents the stock activities and the total number of shares available for grant as of December 31, 2019 (in thousands):

	Number of Shares
Balance—December 31, 2018	15,386
Authorized	—
Options granted	(76)
RSUs granted	(360)
Options canceled	70
RSUs forfeited	85
Shares traded for taxes	41
Balance—December 31, 2019	15,146

Stock-Based Compensation Expense

Total following table summarizes stock-based compensation expense related to our equity awards (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Cost of revenue	$ 4,637	$ 5,087	$ 4,353
Research and development	53,068	48,205	42,184
Sales and marketing	29,168	24,995	17,953
General and administrative	14,407	12,915	10,937
Total stock-based compensation	$ 101,280	$ 91,202	$ 75,427

Determination of Fair Value

We record stock-based compensation awards based on fair value as of the grant date. We value RSUs at the market close price of our common stock on the date of grant. For option awards and ESPP offerings we use the Black-Scholes option pricing model to determine fair value. We recognize such costs as compensation expense generally on a straight-line basis over the requisite service period of the award.

Stock Options

For the years ended December 31, 2019, 2018 and 2017, the fair value of each stock option granted under our plans was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	Year Ended December 31,		
	2019	2018	2017
Expected term (in years)	6.9	7.0	6.3
Risk-free interest rate	2.5%	2.9%	2.1%
Expected volatility	42.8%	44.6%	38.9%
Dividend rate	—%	—%	—%

ESPP

The following table summarizes the assumptions relating to our ESPP:

	Year Ended December 31,		
	2019	2018	2017
Expected term (in years)	1.1	1.1	1.2
Risk-free interest rate	1.8%	2.4%	1.1%
Expected volatility	42.5%	41.9%	31.7%
Dividend rate	—%	—%	—%

As of December 31, 2019, unrecognized stock-based compensation expenses by award type and their expected weighted-average recognition periods are summarized in the following table (in thousands, except years).

	December 31, 2019			
	Stock Option	RSU	ESPP	Restricted Stock
Unrecognized stock-based compensation expense	$ 43,928	$ 179,986	$ 10,401	$ 3,931
Weighted-average amortization period	3.3 years	3.2 years	1.1 years	2.7 years

9. Net Income Per Share Available to Common Stock

The following table sets forth the computation of our basic and diluted net income per share available to common stock (in thousands, except per share amounts):

	Year Ended December 31,		
	2019	2018	2017
Numerator:			
Basic:			
Net income	$ 859,867	$ 328,115	$ 423,201
Less: undistributed earnings allocated to participating securities	(423)	(189)	(801)
Net income available to common stockholders, basic	$ 859,444	$ 327,926	$ 422,400
Diluted:			
Net income attributable to common stockholders, basic	$ 859,444	$ 327,926	$ 422,400
Add: undistributed earnings allocated to participating securities	24	15	68
Net income attributable to common stockholders, diluted	$ 859,468	$ 327,941	$ 422,468
Denominator:			
Basic:			
Weighted-average shares used in computing net income per share available to common stockholders, basic	76,312	74,750	72,258
Diluted:			
Weighted-average shares used in computing net income per share available to common stockholders, basic	76,312	74,750	72,258
Add weighted-average effect of dilutive securities:			
Stock options, RSUs and RSAs	4,565	6,083	6,599
Employee stock purchase plan	2	11	120
Weighted-average shares used in computing net income per share available to common stockholders, diluted	80,879	80,844	78,977
Net income per share attributable to common stockholders:			
Basic	$ 11.26	$ 4.39	$ 5.85
Diluted	$ 10.63	$ 4.06	$ 5.35

The following weighted-average outstanding shares of common stock equivalents were excluded from the computation of diluted net income per share available to common stockholders for the periods presented because including them would have been anti-dilutive (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Stock options and RSUs to purchase common stock	318	140	58
Employee stock purchase plan	82	71	—
Total	400	211	58

10. Income Taxes

The geographical breakdown of income before provision for income taxes is as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Domestic	$ 727,632	$ 136,818	$ 373,221
Foreign	134,638	151,983	101,539
Income before income taxes	$ 862,270	$ 288,801	$ 474,760

The components of the provision for income taxes are as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Current provision for income taxes:			
Federal	$ 58,187	$ 6,113	$ 31,935
State	19,067	2,018	3,645
Foreign	928	10,451	7,322
Total current	78,182	18,582	42,902
Deferred tax expense/(benefit):			
Federal	362,056	(57,726)	12,795
State	(4,511)	(4,164)	(3,404)
Foreign	(433,324)	3,994	(734)
Total deferred	(75,779)	(57,896)	8,657
Total provision for (benefit from) income taxes	$ 2,403	$ (39,314)	$ 51,559

The reconciliation of the statutory federal income tax rate and our effective income tax rate is as follows:

	Year Ended December 31,		
	2019	2018	2017
U.S. federal statutory income tax rate	21.00 %	21.00 %	35.00 %
State tax, net of federal benefit	1.30	(0.59)	0.03
Taxes on foreign earnings differential	(2.59)	(3.37)	(5.18)
Tax credits	(3.10)	(7.68)	(3.23)
Change in valuation allowance	(0.10)	1.00	—
Intra-Entity Sale	(9.95)	—	—
Stock-based compensation	(6.56)	(24.90)	(25.86)
Tax Cuts and Jobs Act	—	(1.72)	11.14
Acquisition and integration costs	0.04	2.12	—
Other, net	0.24	0.53	(1.04)
Effective tax rate	0.28 %	(13.61)%	10.86 %

Excess tax benefits resulting from stock awards were $77.9 million, $75.5 million and $110.0 million for the years ended December 31, 2019, 2018 and 2017, respectively.

We have operations and a taxable presence in numerous jurisdictions outside the U.S. In 2019, a few of these countries have a lower tax rate than the U.S. The significant jurisdictions in which we have a presence include Cayman Islands, Ireland, and the United Kingdom.

On December 31, 2019, we completed an intra-entity transaction to sell our non-Americas economic and beneficial intellectual property ("IP") rights in exchange for a non-interest-bearing note of $3.4 billion. As a result of the transaction, tax basis in the IP transferred equaled the fair market value of the qualifying IP that resulted in the recognition of a deferred tax asset of $429.1 million, which was largely offset by a deferred tax liability of $343.3 million associated with the future US tax on foreign earnings arising from the transaction for the difference in the local tax basis and US GAAP book basis of the IP rights.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets (liabilities) are as follows (in thousands):

	December 31,	
	2019	2018
Deferred tax assets:		
Intangible assets	419,911	—
Reserves and accruals not currently deductible	71,945	77,373
Tax credits	54,867	57,793
Lease financing obligation	22,547	—
Capitalized R&D expenses	16,169	30,027
Stock-based compensation	15,856	19,186
Net operating losses	8,857	11,052
Other	3,950	3,943
Gross deferred tax assets	614,102	199,374
Valuation allowance	(67,331)	(56,724)
Total deferred tax assets	546,771	142,650
Deferred tax liabilities:		
US tax on foreign earnings	(326,967)	—
Right of use asset	(20,038)	—
Acquired intangibles	—	(13,401)
Accrued liabilities	—	(5,190)
Other	(2,451)	(1,320)
Total deferred tax liabilities	(349,456)	(19,911)
Net deferred tax assets	$ 197,315	$ 122,739

The following table presents the breakdown between non-current deferred tax assets and liabilities (in thousands):

	December 31,	
	2019	2018
Deferred tax assets, non-current	$ 452,025	$ 126,492
Deferred tax liabilities, non-current	(254,710)	(3,753)
Total net deferred tax assets	$ 197,315	$122,739

Recognition of deferred tax assets is appropriate when realization of these assets is more likely than not. We believe that all of the deferred tax assets were realizable with the exception of U.S. Federal capital losses, California, Canadian, and U.K. deferred tax assets. Therefore, a valuation allowance of $67.3 million and $56.7 million was recorded as of December 31, 2019 and 2018, respectively, against the U.S. Federal capital losses, California, Canadian, U.K. deferred tax assets as it is more likely than not that these assets will be not be recognized.

As of December 31, 2019, we had $72.5 million and $38.4 million of net operating loss carryforwards for federal and state income tax purposes, from the acquisition of Mojo. These losses began to expire in 2019. For foreign jurisdictions, we had combined foreign net operating loss carryforwards of $12.2 million, which do not expire.

We had state credit carryforwards of $109.0 million, which can be carried over indefinitely. For foreign jurisdictions, we had $1.6 million of Canadian scientific research and experimental development tax credit carry-forwards, which begin to expire in 2033.

Utilization of the net operating losses and tax credit carryforwards may be subject to limitations due to ownership changes limitations provided in the Internal Revenue code and similar state or foreign provisions.

The Tax Cuts and Jobs Act enacted on December 22, 2017 required a Transition Tax on previously untaxed accumulated and current foreign earnings. Correspondingly, all undistributed earnings were deemed to be taxed and distributions of the unremitted earnings will not have any significant U.S. federal income tax impact. We have not provided for any remaining tax effect, if any, of limited outside basis differences of our foreign subsidiaries based upon plans of future reinvestment. The determination of the future tax consequences of the remittance of these earnings is not practicable.

Uncertain Tax Positions

We recognize uncertain tax positions only to the extent that management believes that it is more likely than not the position will be sustained. The reconciliation of the beginning and ending amount of gross unrecognized tax benefits as of December 31, 2019, 2018 and 2017 was as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Gross unrecognized tax benefits—beginning balance	$ 74,436	$ 48,835	$ 26,915
Increases related to tax positions taken in a prior year	11,171	330	1,243
Increases related to tax positions taken during current year	22,714	27,413	22,202
Decreases related to tax positions taken in a prior year	(89)	(675)	(21)
Decreases related to settlements with taxing authorities	(12,388)	—	—
Decreases related to lapse of statute of limitations	(2,120)	(2,173)	(1,504)
Adjustment for acquisition	82	706	—
Gross unrecognized tax benefits—ending balance	$ 93,806	$ 74,436	$ 48,835

As of December 31, 2019, 2018 and 2017, the total amount of gross unrecognized tax benefits was $93.8 million, $74.4 million and $48.8 million, of which $28.5 million, $35.7 million and $26.8 million would affect our effective tax rate if recognized.

Our policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense. We have recorded a net expense for interest and penalties of $0.2 million and $0.9 million in the years ended December 31, 2019 and 2018, respectively. As of December 31, 2019 and 2018, we recognized a liability for interest and penalties of $2.2 million and $1.9 million, respectively.

The statute of limitations for Federal and most states remain open for 2016 and forward. Some states have net operating loss and tax credit carryforwards, and therefore remain open to examination. The majority of our foreign tax returns are open to audit under the statute of limitations of the respective foreign countries, in which the subsidiaries are located. It is possible that the amount of existing unrecognized tax benefits may decrease within the next 12 months as a result of statute of limitation lapses or payments to tax authorities in certain jurisdictions, however, an estimate of the range cannot be made.

11. Segment Information

We have determined that we operate as one reportable segment. The following table represents revenue based on the customer's location, as determined by the customer's shipping address (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Americas	$ 1,833,163	$ 1,550,453	$ 1,192,289
Europe, Middle East and Africa	381,651	414,069	299,547
Asia Pacific	195,892	186,847	154,350
Total revenue	$ 2,410,706	$ 2,151,369	$ 1,646,186

Long lived assets, excluding intercompany receivables, investments in subsidiaries, privately held equity investments and deferred tax assets, net by location are summarized as follows (in thousands):

	December 31,	
	2019	2018
United States	$ 32,565	$ 69,238
International	6,708	6,117
Total	$ 39,273	$ 75,355

12. Post-Employment Benefits

We have a 401(k) Plan that covers substantially all of our employees in the U.S. Effective January 1, 2017, we have elected to match 100% of employees' contributions up to a maximum of 3% of an employee's annual salary. Matching contributions will be immediately vested. For the years ended December 31, 2019, 2018 and 2017 we contributed approximately $5.1 million, $4.6 million and $3.5 million for the matching contributions, respectively.

13. Selected Quarterly Financial Information (Unaudited)

The following table sets forth selected unaudited quarterly consolidated statements of operations data for each of the quarters in the years ended December 31, 2019 and 2018:

	Three Months Ended							
	Dec. 31, 2019	Sep. 30, 2019	Jun. 30, 2019	Mar. 31, 2019	Dec. 31, 2018	Sep. 30, 2018	Jun. 30, 2018	Mar. 31, 2018
	(in thousands)							
Revenue:								
Product	$ 447,498	$ 555,066	$ 513,171	$ 505,415	$ 503,235	$ 485,481	$ 444,767	$ 407,617
Service	105,048	99,349	95,150	90,009	92,491	77,828	75,078	64,872
Total revenue	552,546	654,415	608,321	595,424	595,726	563,309	519,845	472,489
Cost of revenue:								
Product	175,476	218,220	200,534	198,152	204,507	187,764	171,622	156,691
Service	20,767	18,921	17,596	16,702	16,227	13,962	14,340	12,879
Total cost of revenue	196,243	237,141	218,130	214,854	220,734	201,726	185,962	169,570
Gross profit	356,303	417,274	390,191	380,570	374,992	361,583	333,883	302,919
Operating expenses:								
Research and development	110,063	118,732	114,295	119,669	118,439	117,589	104,078	102,362
Sales and marketing	54,535	55,279	53,040	51,053	50,911	47,903	46,188	42,140
General and administrative	15,716	14,657	16,019	15,506	12,000	15,321	18,420	19,679
Legal settlement	—	—	—	—	—	—	405,000	—
Total operating expenses	180,314	188,668	183,354	186,228	181,350	180,813	573,686	164,181
Income (loss) from operations	175,989	228,606	206,837	194,342	193,642	180,770	(239,803)	138,738
Other income (expense), net:								
Interest expense	—	—	—	—	(661)	(673)	(680)	(687)
Other income (expense), net	11,183	19,169	13,811	12,333	5,509	9,292	(1,489)	4,843
Total other income (expense), net	11,183	19,169	13,811	12,333	4,848	8,619	(2,169)	4,156
Income before income taxes	187,172	247,775	220,648	206,675	198,490	189,389	(241,972)	142,894
Provision for (benefit from) income taxes	(73,520)	38,880	31,397	5,646	28,168	20,865	(86,703)	(1,644)
Net income (loss)	$ 260,692	$ 208,895	$ 189,251	$ 201,029	$ 170,322	$ 168,524	$ (155,269)	$ 144,538
Net income (loss) per share attributable to common stockholders:								
Basic	$ 3.41	$ 2.73	$ 2.47	$ 2.65	$ 2.26	$ 2.25	$ (2.08)	$ 1.95
Diluted	$ 3.25	$ 2.59	$ 2.33	$ 2.47	$ 2.10	$ 2.08	$ (2.08)	$ 1.79

14. Subsequent Event (Unaudited)

Acquisition of Big Switch Networks

On February 5, 2020, we completed the acquisition of Big Switch Networks, a network monitoring and Software Defined Networking (SDN) pioneer. The transaction will be included in our condensed consolidated financial statements in the quarter ended March 31, 2020 and will be financed from our existing cash balance.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Management, with the participation of our Chief Executive Officer ("CEO") and our Chief Financial Officer ("CFO"), evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Based on the evaluation of our disclosure controls and procedures as of December 31, 2019, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose 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 (SEC) rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Securities and Exchange Act of 1934, as amended, that occurred during the year ended December 31, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

In connection with our adoption of ASC 842, the new lease accounting standard, on January 1, 2019, we implemented internal controls to ensure we adequately evaluated our contracts and properly assessed the impact of ASC 842 on our financial statements and disclosures.

Inherent Limitations of Internal Controls

Our management, including our CEO and CFO, does not expect that our disclosure controls and procedures or our internal controls over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls.

The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed under the supervision of our principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

Our 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 our assets; (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 our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our 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 our internal control over financial reporting as of December 31, 2019, based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control - Integrated Framework (2013 framework). Based on that assessment, management concluded that, as of December 31, 2019, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of December 31, 2019, has been audited by Ernst & Young LLP, the independent registered public accounting firm that audits our Consolidated Financial Statements, as stated in their report included in Item 8 of this Annual Report on Form 10-K, which expresses an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2019.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

Information required by this Item is incorporated herein by reference to our definitive proxy statement with respect to our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 11. Executive Compensation

Information required by this Item is incorporated herein by reference to our definitive proxy statement with respect to our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information required by this Item is incorporated herein by reference to our definitive proxy statement with respect to our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 13. Certain Relationships and Related Transactions and Director Independence

Information required by this Item is incorporated herein by reference to our definitive proxy statement with respect to our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 14. Principal Accountant Fees and Services

Information required by this Item is incorporated herein by reference to our definitive proxy statement with respect to our 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules

Documents filed as part of this Annual Report on Form 10-K are as follows:

1. Consolidated Financial Statements

Our Consolidated Financial Statements are listed in the "Index to Consolidated Financial Statements" under Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

Financial statement schedules have been omitted because they are not required, not applicable, not present in amounts sufficient to require submission of the schedule, or the required information is shown in the Consolidated Financial Statements or Notes thereto.

3. Exhibits

The exhibits listed in the following Exhibit Index are filed or incorporated by reference into this report:

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	10-Q	001-36468	3.1	8/8/2014	
3.2	Bylaws of the Registrant.	10-Q	001-36468	3.2	8/8/2014	
4.1	Form of the Registrant's common stock certificate.	S-1/A	333-194899	4.1	4/21/2014	
4.2	Investors’ Rights Agreement, dated October 16, 2004, between Registrant and certain holders of Registrant’s capital stock named therein.	S-1	333-194899	4.2	3/31/2014	
4.3	Description of Registrant’s securities registered under Section 12 of the Exchange Act					✓
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.	10-Q	001-36468	10.1	11/1/2019	
10.2 †	2004 Equity Incentive Plan.	S-1	333-194899	10.2	3/31/2014	
10.3 †	2011 Equity Incentive Plan.	S-1	333-194899	10.3	3/31/2014	
10.4 †	2014 Equity Incentive Plan.	S-1/A	333-194899	10.4	5/27/2014	
10.5 †	2014 Employee Stock Purchase Plan.	10-K	001-36468	10.5	3/12/2015	
10.6 †	Offer Letter, dated October 17, 2004, by and between the Registrant and Kenneth Duda.	S-1	333-194899	10.6	3/31/2014	
10.7 †	Offer Letter, dated June 8, 2007, by and between the Registrant and Anshul Sadana.	S-1	333-194899	10.7	3/31/2014	
10.8 †	Offer Letter, dated August 1, 2008, by and between the Registrant and Jayshree Ullal.	S-1	333-194899	10.8	3/31/2014	
10.9 †	Offer Letter, dated March 27, 2013, by and between the Registrant and Charles Giancarlo.	S-1	333-194899	10.9	3/31/2014	
10.10 †	Offer Letter, dated June 3, 2013, by and between the Registrant and Ann Mather.	S-1	333-194899	10.10	3/31/2014	
10.11	Lease between Arista Networks, Inc. and The Irvine Company LLC, dated August 10, 2012, as amended on February 28, 2013.	S-1	333-194899	10.15	3/31/2014	
10.12	Second Amendment to Lease, by and between Arista Networks, Inc. and The Irvine Company LLC, dated July 30, 2014.	10-Q	001-36468	10.1	8/8/2014	
10.13	License Agreement, dated November 30, 2004, by and between the Registrant and OptumSoft, Inc.	S-1	333-194899	10.16	3/31/2014	
10.14‡	Manufacturing Services Letter Agreement, dated February 5, 2007, between the Registrant and Jabil Circuit, Inc.	S-1	333-194899	10.17	3/31/2014	
10.15 †	Employee Incentive Plan.	S-1/A	333-194899	10.21	4/21/2014	
10.16 †	Offer Letter, dated May 18, 2015, by and between the Registrant and Ita Brennan.	8-K	001-36468	10.1	5/14/2015	
10.17 †	Severance Agreement, effective May 18, 2015, by and between the Registrant and Ita Brennan.	8-K	001-36468	10.2	5/14/2015	
10.18 †	2015 Global Sales Incentive Plan.	10-Q	001-36468	10.3	5/5/2016	
10.19 †	Offer letter, dated January 2, 2013, by and between the Registrant and Marc Taxay.	10-Q	001-36468	10.1	5/8/2017	
10.20 †	Severance Agreement, dated March 30, 2015, by and between the Registrant and Marc Taxay.	10-Q	001-36468	10.2	5/8/2017	

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.21 †	Offer letter, dated February 14, 2017, by and between the Registrant and John McCool.	10-Q	001-36468	10.3	5/8/2017	
10.22 †	Severance Agreement, dated March 20, 2017, by and between the Registrant and John McCool.	10-Q	001-36468	10.4	5/8/2017	
10.23 ‡	Term Sheet of Mutual Release and Settlement Agreement, dated August 6, 2018, between the Registrant and Cisco Systems, Inc.	10-Q	001-36468	10.1	11/5/2018	
10.24 ‡	Mutual Release and Settlement Agreement, dated August 6, 2018, by and between the Registrant and Cisco Systems, Inc.	10-K	001-36468	10.24	2/15/2019	
10.25 †	Offer letter, dated December 22, 2017, by and between the Registrant and Manuel Rivelo.	10-K	001-36468	10.25	2/15/2019	
10.26 †	Severance Agreement, dated December 22, 2017, by and between the Registrant and Manuel Rivelo.	10-K	001-36468	10.26	2/15/2019	
21.1	List of Subsidiaries of the Registrant.					✓
23.1	Consent of Independent Registered Public Accounting Firm.					✓
31.1	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					✓
31.2	Certification of the Chief Financial Officer pursuant to Section 302(a) of the Sarbanes-Oxley Act of 2002.					✓
32.1*	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002.					✓
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.					
104.0	Cover Page Interactive File (formatted as Inline XBRL and contained in Exhibit 101)					

† Indicates a management contract or compensatory plan or arrangement.

‡ Confidential treatment has been requested for portions of this exhibit. These portions have been omitted and have been filed separately with the Securities and Exchange Commission.

* The certifications attached as Exhibit 32.1 that accompany this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Arista Networks, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

Item 16. Form 10-K Summary

None.

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.

Arista Networks, Inc.
(Registrant)

Dated: February 13, 2020

By: /s/ JAYSHREE ULLAL
Jayshree Ullal
President, Chief Executive Officer and Director
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jayshree Ullal and Ita Brennan, jointly and severally, his or her attorney-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, 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:

Signature	Title	Date
/s/ JAYSHREE ULLAL **Jayshree Ullal**	President, Chief Executive Officer and Director (Principal Executive Officer)	February 13, 2020
/s/ ITA BRENNAN **Ita Brennan**	Chief Financial Officer (Principal Accounting and Financial Officer)	February 13, 2020
/s/ ANDY BECHTOLSHEIM **Andy Bechtolsheim**	Founder, Chief Development Officer and Director	February 13, 2020
/s/ CHARLES GIANCARLO **Charles Giancarlo**	Director	February 13, 2020
/s/ ANN MATHER **Ann Mather**	Director	February 13, 2020
/s/ DAN SCHEINMAN **Dan Scheinman**	Director	February 13, 2020
/s/ MARK TEMPLETON **Mark Templeton**	Director	February 13, 2020
/s/ NIKOS THEODOSOPOULOS **Nikos Theodosopoulos**	Director	February 13, 2020

Exhibit 4.3

DESCRIPTION OF CAPITAL STOCK

The following description of the capital stock of Arista Networks, Inc. (“us,” “our,” “we” or the “Company”) is a summary of the rights of our capital stock and summarizes certain provisions of our amended and restated certificate of incorporation and our amended and restated bylaws. This summary does not purport to be complete and is qualified in its entirety by the provisions of our amended and restated certificate of incorporation, amended and restated bylaws and 2004 Rights Agreement, copies of which have been filed as exhibits to this Annual Report on Form 10-K, as well as to the applicable provisions of the Delaware General Corporation Law.

Our authorized capital stock consists of 1,100,000,000 shares, with a par value of $0.0001 per share, of which:

- 1,000,000,000 shares are designated as common stock; and
- 100,000,000 shares are designated as preferred stock.

Common Stock

The holders of common stock are entitled to one vote per share on all matters submitted to a vote of our stockholders and do not have cumulative voting rights. Accordingly, holders of a majority of the shares of common stock entitled to vote in any election of directors may elect all of the directors standing for election. Subject to preferences that may be applicable to any preferred stock outstanding at the time, the holders of outstanding shares of common stock are entitled to receive ratably any dividends declared by our board of directors out of assets legally available. Upon our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any then outstanding shares of preferred stock. Holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our board of directors has the authority, without further action by the stockholders, to issue, from time to time, up to 100,000,000 shares of preferred stock in one or more series. Our board of directors may designate the rights, preferences, privileges and restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, redemption rights, liquidation preference, sinking fund terms and the number of shares constituting any series or the designation of any series. The issuance of preferred stock could have the effect of restricting dividends on the common stock, diluting the voting power of the common stock, impairing the liquidation rights of the common stock or delaying, deterring or preventing a change in control. Such issuance could have the effect of decreasing the market price of the common stock.

Registration Rights—2004 Rights Agreement

Certain holders of shares of our common stock or their permitted transferees are entitled to rights with respect to the registration of these shares under the Securities Act of 1933, as amended (the “Securities Act”). These rights are provided under the terms of a rights agreement dated October 16, 2004 between us and the holders of these shares (the “2004 Rights Agreement”) and include demand registration rights, short-form registration rights and piggyback registration rights.

The registration rights provided for in the 2004 Rights Agreement terminate seven (7) years following the completion of our initial public offering or, with respect to any particular stockholder, at such time that such stockholder can sell all of its registrable securities during any three-month period pursuant to Rule 144 of the Securities Act or the registrable securities of such stockholders represent less than one percent of our outstanding capital stock.

Demand Registration Rights

Certain holders of shares of our common stock or their permitted transferees, are entitled to demand registration rights pursuant to the 2004 Rights Agreement. Under the terms of the 2004 Rights Agreement, we will be required, upon the written request of holders of at least 50% of the shares that are entitled to registration rights under the 2004 Rights Agreement with respect to a registration with an anticipated aggregate offering price, before any underwriting discounts and commissions, in excess of $25.0 million, to register, as soon as practicable, all or a portion of these shares for public resale. We are required to effect only one registration pursuant to this provision of the rights agreement. Depending on certain conditions, however, we may defer such registration for up to 90 days twice in any 12-month period. We are not required to effect a demand registration earlier than 180 days after the effective date of this offering. If the holders requesting registration intend to distribute their shares by means of an underwriting, the underwriters of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Short-Form Registration Rights

Certain holders of shares of our common stock or their permitted transferees are also entitled to short-form registration rights pursuant to the 2004 Rights Agreement. If we are eligible to file a registration statement on Form S-3, these holders have the right, upon written request from holders of these shares, to have such shares registered by us if the proposed aggregate offering price of the shares to be registered by the holders requesting registration is at least $2.5 million, net of any underwriter's discounts or commissions, subject to exceptions set forth in the 2004 Rights Agreement.

Piggyback Registration Rights

Certain holders of shares of our common stock or their permitted transferees are entitled to piggyback registration rights pursuant to the 2004 Rights Agreement. If we register any of our securities under the Securities Act, subject to certain exceptions, the holders of these shares will be entitled to notice of the registration and to include their registrable securities in the registration. The underwriters of any underwritten offering have the right to limit the number of shares registered by these holders for marketing reasons, subject to limitations set forth in the 2004 Rights Agreement.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, could discourage takeovers, coercive or otherwise. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Undesignated Preferred Stock. As discussed above under "—Preferred Stock," our board of directors has the ability to designate and issue preferred stock with voting or other rights or preferences that could deter hostile takeovers or delay changes in our control or management.

Limits on Ability of Stockholders to Act by Written Consent or Call a Special Meeting. Our amended and restated certificate of incorporation provides that our stockholders may not act by written consent. This limit on the ability of stockholders to act by written consent may lengthen the amount of time required to take stockholder actions. As a result, the holders of a majority of our capital stock would not be able to amend the amended and restated bylaws or remove directors without holding a meeting of stockholders called in accordance with the amended and restated bylaws.

In addition, our amended and restated bylaws provides that special meetings of the stockholders may be called only by the chairman of the board, the chief executive officer, the president (in the absence of a chief executive officer) or our board of directors. A stockholder may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals. Our amended and restated bylaws contain advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of the board of directors. These advance notice procedures may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed and may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempt to obtain control of our company.

Board Classification. Our amended and restated certificate of incorporation provides that our board of directors is divided into three classes, one class of which is elected each year by our stockholders. The directors in each class serve for a three-year term. Our classified board of directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us because it generally makes it more difficult for stockholders to replace a majority of the directors.

Election and Removal of Directors. Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that establish specific procedures for appointing and removing members of our board of directors. Under our amended and restated certificate of incorporation and amended and restated bylaws, vacancies and newly created directorships on our board of directors may be filled only by a vote of a majority of the directors then serving on the board of directors. Under our amended and restated certificate of incorporation and amended and restated bylaws, directors may be removed only for cause by the affirmative vote of the holders of a majority of the shares then entitled to vote at an election of directors.

No Cumulative Voting. The Delaware General Corporation Law provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless our restated certificate of incorporation provides otherwise. Our restated certificate of incorporation and amended and restated bylaws do not expressly provide for cumulative voting. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board of directors' decision regarding a takeover.

Amendment of Charter Provision. Any amendment of the above provisions in our amended and restated certificate of incorporation would require approval by holders of at least two-thirds of our then outstanding common stock.

Delaware Anti-Takeover Statute. We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2⁄3% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

The provisions of Delaware law and the provisions of our amended and restated certificate of incorporation and amended and restated bylaws could have the effect of discouraging others from attempting hostile takeovers and as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions might also have the effect of preventing changes in our management. It is also possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

Exhibit 21.1

SUBSIDIARIES OF ARISTA NETWORKS, INC.

Name of Subsidiary	Jurisdiction of Incorporation
Arista Networks Australia Pty Ltd	Australia
Arista Acquisition Australia Pty Limited	Australia
Metamako Holding Pty Ltd	Australia
Metamako Group Pty Ltd	Australia
Metamako General Pty Ltd	Australia
Metamako LP	Australia
Metamako Technology LP	Australia
Arista Networks Austria GmbH	Austria
Arista Networks Canada Ltd.	Canada
Arista Networks ULC	Canada
Arista Networks (Shanghai) Co., Ltd.	China
Arista Technology Limited	Cayman Islands
Arista Networks Cyprus Ltd	Cyprus
Arista Networks EURL	France
Arista Networks GmbH	Germany
Arista Networks Hong Kong Limited	Hong Kong
Arista Networks India Private Limited	India
Mojo Networks Private Limited	India
Arista Networks Limited	Ireland
Arista Networks International Limited	Ireland
Arista Technology Ireland Unlimited Company	Ireland
Arista Holding Limited	Ireland
Arista Networks Israel Ltd	Israel
Arista Networks Japan Ltd.	Japan
Arista Networks Korea, LLC	Korea
Arista Networks Malaysia Sdn. Bhd.	Malaysia
Arista Networks Mexico S. de R.L. de C.V.	Mexico
Arista Networks B.V.	The Netherlands
Arista Networks Singapore Private Ltd.	Singapore
Arista Networks Sweden AB	Sweden
Arista Networks Taiwan Limited	Taiwan
Arista Networks Middle East DMCC	United Arab Emirates
Arista Networks UK Ltd	United Kingdom
ANET LLC	United States
Arista Networks Holding Corporation	United States
Metamako America LLC	United States
Mojo Networks, LLC	United States
Skylark Partners, LLC	United States

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements (Form S-8 Nos. 333-196550, 333-202919, 333-209723, 333-216136, 333-223093, and 333-229730) pertaining to the 2004 Equity Incentive Plan, the 2011 Equity Incentive Plan, the 2014 Equity Incentive Plan and the 2014 Employee Stock Purchase Plan of Arista Networks, Inc. of our reports dated February 13, 2020, with respect to the consolidated financial statements of Arista Networks, Inc. and the effectiveness of internal control over financial reporting of Arista Networks, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Jose, California
February 13, 2020

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jayshree Ullal, certify that:

1. I have reviewed this Annual Report on Form 10-K of Arista 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 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 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 13, 2020

/s/ JAYSHREE ULLAL

Jayshree Ullal
President, Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ita Brennan, certify that:

1. I have reviewed this Annual Report on Form 10-K of Arista 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 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 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 13, 2020

/s/ ITA BRENNAN

Ita Brennan
Chief Financial Officer
(Principal Accounting and Financial Officer)

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Jayshree Ullal, 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 Arista Networks, Inc. on Form 10-K for the fiscal year ended December 31, 2019, 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 Arista Networks, Inc.

Date: February 13, 2020

By:	/s/ JAYSHREE ULLAL
Name:	Jayshree Ullal
Title:	President, Chief Executive Officer and Director
	(Principal Executive Officer)

I, Ita Brennan, 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 Arista Networks, Inc. on Form 10-K for the fiscal year ended December 31, 2019, 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 Arista Networks, Inc.

Date: February 13, 2020

By:	/s/ ITA BRENNAN
Name:	Ita Brennan
Title:	Chief Financial Officer
	(Principal Accounting and Financial Officer)