

CISCO SYSTEMS, INC.  
Form 10-K  
September 08, 2016  
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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 July 30, 2016

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 0-18225

CISCO SYSTEMS, INC.

(Exact name of Registrant as specified in its charter)

California 77-0059951

(State or other jurisdiction of (IRS Employer  
incorporation or organization) Identification No.)

170 West Tasman Drive 95134-1706

San Jose, California (Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (408) 526-4000

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

Title of Each Class: Name of Each Exchange on which  
Registered

Common Stock, par value \$0.001 per share The NASDAQ Stock Market LLC

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files).  Yes  No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting

company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

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

Aggregate market value of registrant’s common stock held by non-affiliates of the registrant, based upon the closing price of a share of the registrant’s common stock on January 22, 2016 as reported by the NASDAQ Global Select Market on that date: \$117,979,166,007

Number of shares of the registrant’s common stock outstanding as of September 2, 2016: 5,014,353,833

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**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant’s Proxy Statement relating to the registrant’s 2016 Annual Meeting of Shareholders, to be held on December 12, 2016, are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated.

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This Annual Report on Form 10-K, including the “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements regarding future events and our future results that are subject to the safe harbors created under the Securities Act of 1933 (the “Securities Act”) and the Securities Exchange Act of 1934 (the “Exchange Act”). All statements other than statements of historical facts are statements that could be deemed forward-looking statements. These statements are based on current expectations, estimates, forecasts, and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as “expects,” “anticipates,” “targets,” “goals,” “projects,” “intends,” “plans,” “believes,” “momentum,” “seeks,” “estimates,” “endeavors,” “strives,” “may,” variations of such words, and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to projections of our future financial performance, our anticipated growth and trends in our businesses, and other characterizations of future events or circumstances are forward-looking statements. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified below, under “Item 1A. Risk Factors,” and elsewhere herein. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to revise or update any forward-looking statements for any reason.

## PART I

### Item 1. Business General

Cisco designs and sells broad lines of products, provides services and delivers integrated solutions to develop and connect networks around the world. For over 30 years, we have helped our customers build networks and automate, orchestrate, integrate, and digitize information technology (IT)–based products and services. In an increasingly connected world, Cisco is helping to transform businesses, governments and cities worldwide. Over time, we have expanded to new markets that are a natural extension of our core networking business, as the network has become the platform for delivering an ever-increasing portfolio of IT–based products and services.

We conduct our business globally, and manage our business by geography. Our business is organized into the following three geographic segments: Americas; Europe, Middle East, and Africa (EMEA); and Asia Pacific, Japan, and China (APJC). For revenue and other information regarding these segments, see Note 17 to the Consolidated Financial Statements.

Our products and technologies are grouped into the following categories: Switching; Next-Generation Network (NGN) Routing; Collaboration; Data Center; Wireless; Service Provider Video; Security; and Other Products. In addition to our product offerings, we provide a broad range of service offerings, including technical support services and advanced services. Increasingly, we are delivering our technology, and services to our customers as solutions for their priorities including cloud, video, mobility, security, collaboration, and analytics. The network is at the center of these markets and technologies, and we are focused on delivering integrated solutions to help our customers achieve their desired business outcomes. Our customers include businesses of all sizes, public institutions, governments and service providers. These customers look to us as a strategic partner to help them use IT to enable, differentiate or fundamentally define their business strategy and drive growth, improve productivity, reduce costs, mitigate risk, and gain a competitive advantage in an increasingly digital world.

We were incorporated in California in December 1984, and our headquarters are in San Jose, California. The mailing address of our headquarters is 170 West Tasman Drive, San Jose, California 95134-1706, and our telephone number at that location is (408) 526-4000. Our website is [www.cisco.com](http://www.cisco.com). Through a link on the Investor Relations section of our website, we make available the following filings as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission (SEC): our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. All such filings are available free of charge. The information posted on our website is not incorporated into this report.



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### Strategy and Focus Areas

We see our customers increasingly using technology and, specifically, networks to grow their businesses, drive efficiencies, and try to gain a competitive advantage. In this increasingly digital world, we believe data is the most strategic asset and is increasingly distributed across every organization and ecosystem, on customer premises, at the edge of the network, and in the cloud. The network also plays an increasingly important role enabling our customers to aggregate, automate, and draw insights from this highly distributed data, where there is a premium on security and speed. We believe this is driving them to adopt entirely new IT architectures and organizational structures. We understand how technology can deliver the outcomes our customers want to achieve, and our strategy is to lead our customers in their digital transition with solutions including pervasive, industry-leading security that intelligently connects nearly everything that can be digitally connected.

To deliver on our strategy, we are focused on providing highly secure, automated and intelligent solutions built on infrastructure that connects highly distributed data that is globally dispersed across organizations. Together with our ecosystem of partners and developers, we will provide technology, services, and solutions we believe will enable our customers to gain insight and advantage from this distributed data with scale, security and agility.

Over the last several years, we have been transforming our business to move from selling individual products and services to selling products and services integrated into architectures and solutions. As a part of this transformation, we continue to make changes to how we are organized, how we sell our products, and how we build and deliver our technology.

We have begun aggressively transitioning our portfolio to enable delivery both on premise and through the cloud in alignment with our strategy to shift to a business model based on more recurring revenue. We plan to expand the approach we have taken with our cloud-networking platforms to an increasing portion of our product and service portfolio to accelerate our shift to a more subscription and software-based model.

Our approach is to continue to lead the market transitions in our core markets, and enter new markets where the network is foundational. We continue to drive product transitions, including the introduction of next-generation products that offer, in our view, better price-performance and architectural advantages compared with both our prior generation of products and the product offerings of our competitors.

We also plan to continue to deliver innovation across our portfolio in order to sustain our leadership, and strategic position with customers. We intend to execute on this strategy through portfolio transformation, internal innovation, acquisition of strategic assets, investments in start-up companies, and co-development of products with our customers and the building of strategic partnerships.

### Market Transitions

We seek to capitalize on market transitions as sources of future opportunities as part of the continued transformation of our business, and we believe market transitions in the IT industry are occurring with greater frequency. Market transitions relating to the network are becoming, in our view, more significant as intelligent networks have moved from being a cost center issue—where the focus is on reducing network operating costs and increasing network-related productivity—to becoming a platform for revenue generation, business agility, and competitive advantage. Some examples of significant market transitions are as follows:

**Security** We believe that security is the top IT priority for many of our customers. In an evolving dynamic threat landscape, the most effective way to address security challenges is with continuous threat protection that is pervasive and integrated. We further believe that security solutions will help to protect the digital economy and will be an enabler that safeguards business interests, protects customers, and creates competitive advantage. Our security strategy is focused on delivering a unified threat-centric security architecture combining network-based, cloud-based and endpoint-based solutions, providing our customers both more effective security outcomes and a secure foundation to digitize their assets. We have invested in security through a build, buy, and partner strategy to provide security across the entire attack continuum before, during, and after a cyber attack.

**Digital Transformation** Countries, cities, industries and businesses are pursuing "digital transformation", which we define as the application of technology to build new business models, processes, software and systems, to capitalize on new digital ways of doing business. Digital transformation is made possible by the convergence of people, businesses and things. We believe these types of transformations create opportunities to deliver better customer

experiences, create new revenue streams through business model transformation, and optimize efficiency through workforce innovation.

As our customers move from traditional to digital businesses, our goal is to be a strategic partner by providing a technology foundation for digital transformation. Our offerings for this opportunity incorporate a portfolio of products and services, outcome-oriented digital solutions, a developer-rich environment and a partner ecosystem that integrate connectivity, security, automation, collaboration and analytics across customers' business value-chains.

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In our view, we are delivering the architectural approach and solution-based results to help customers reduce complexity, accelerate and grow, and manage risk in a world that is increasingly virtualized, application-centric, cloud-based, analytics-driven, and mobile. An example of this is our fiscal 2016 acquisition of Jasper Technologies, Inc. ("Jasper"), the developer of a cloud-based Internet of Things (IoT) services platform designed to help enterprises and service providers to launch, manage and monetize IoT services on a global scale.

**Software-Defined Networking** We are focusing on a market transition involving the move toward more programmable, flexible, and virtual networks, sometimes called software-defined networking (SDN). This transition is focused on providing a virtualized network environment that is designed to enable flexible, application-driven customization of network infrastructures. We believe the successful products and solutions in this market will combine application-specific integrated circuits (ASICs) with hardware, and software elements together to meet customers' total cost of ownership, quality, security, scalability, and experience requirements. In our view, there is no single architecture that supports all customer requirements in this area.

We believe the opportunity of SDN is to enable more open, and programmable network infrastructure. We are addressing this opportunity with a unique strategy, and set of solutions designed to respond automatically to the needs of our customers' mission critical applications. We introduced and began shipping our Application Centric Infrastructure (ACI), which delivers centralized application-driven policy automation, management, and visibility of both physical and virtual environments as a single system. ACI is comprised of our Nexus 9000 portfolio of switches, enhanced versions of our NX-OS operating system, and the Application Policy Infrastructure Controller (APIC), which provides a central place to configure, automate, and manage an entire network, based on the needs of applications.

**Cloud** Our cloud strategy is to connect private and public clouds working across hypervisors, which are software programs used to create and manage virtual environments. We utilize OpenStack, which is an open source computing platform, to deliver integrated hybrid-cloud solutions. We believe cloud infrastructures need to be secure, and support a rich ecosystem of network-enabled applications to deliver the data and analytics that support the digitization of our customers' environments. As part of our cloud strategy, we are delivering infrastructure and our cloud-based software-as-a-service (SaaS) offerings including WebEx, Meraki cloud networking, and certain other of our Security and Collaboration offerings.

We believe that customers and partners view our approach to the cloud as differentiated and unique, recognizing that we offer a solution to different cloud environments including private, hybrid, and public clouds that enables them to move their workloads across heterogeneous private and public clouds with the necessary policy, security and management features.

For a discussion of the risks associated with our strategy, see "Item 1A. Risk Factors," including the risk factor entitled "We depend upon the development of new products and enhancements to existing products, and if we fail to predict and respond to emerging technological trends and customers' changing needs, our operating results and market share may suffer." For information regarding sales of our major products and services, see Note 17 to the Consolidated Financial Statements.



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## Products and Services

Our current offerings fall into several categories:

## Switching

Switching is an integral networking technology used in campuses, branch offices, and data centers. Switches are used within buildings in local-area networks (LANs), and across great distances in wide-area networks (WANs). Our switching products offer many forms of connectivity to end users, workstations, IP phones, wireless access points, and servers and also function as aggregators on LANs and WANs. Our switching systems employ several widely used technologies, including Ethernet, Power over Ethernet (PoE), Fibre Channel over Ethernet (FCoE), Packet over Synchronous Optical Network, and Multiprotocol Label Switching. Many of our switches are designed to support an integrated set of advanced services, allowing organizations to be more efficient by using one switch for multiple networking functions rather than multiple switches to accomplish the same functions.

Key product platforms within our Switching product category, in which we also include storage products, are as follows:

Fixed-Configuration Switches	Modular Switches	Storage
Cisco Catalyst Series:	Cisco Catalyst Series:	Cisco MDS Series:
• Cisco Catalyst 2960-X Series	• Cisco Catalyst 4500-E Series	• Cisco MDS 9000
• Cisco Catalyst 3650 Series	• Cisco Catalyst 6500-E Series	
• Cisco Catalyst 3850 Series	• Cisco Catalyst 6800 Series	
• Cisco Catalyst 4500-X Series		
Cisco Nexus Series:	Cisco Nexus Series:	
• Cisco Nexus 2000 Series	• Cisco Nexus 7000 Series	
• Cisco Nexus 3000 Series	• Cisco Nexus 9000 Series	
• Cisco Nexus 5000 Series		
• Cisco Nexus 6000 Series		
• Cisco Nexus 9000 Series		

Fixed-configuration switches are designed to cover a range of deployments in both large enterprises as well as in small and medium-sized businesses, providing a foundation for converged data, voice, and video services. Our fixed-configuration switches range from small, standalone switches to stackable models that function as a single, scalable switching unit.

Modular switches are typically used by enterprise and service provider customers with large-scale network needs. These products are designed to offer customers the flexibility and scalability to deploy numerous, as well as advanced, networking services without degrading overall network performance.

Fixed-configuration and modular switches also include products such as optics modules, which are shared across multiple product platforms. Our switching portfolio also includes virtual switches and related offerings. These products provide switching functionality for virtual machines, and are designed to operate in a complementary fashion with virtual services to optimize security and application behavior.

In fiscal 2014, we introduced what we call our application centric infrastructure (ACI) solution, which is part of our Data Center Switching portfolio. Cisco ACI consists of the Cisco Nexus 9000 Series Switches, a Cisco APIC and accompanying centralized policy management capability, integrated physical and virtual infrastructure, and an open ecosystem of network, storage, management, and orchestration vendors. During fiscal 2016, we have seen strong adoption of Cisco ACI across geographies and customer segments.

We plan to integrate new technologies with the Cisco ACI solution. As an example, our CloudCenter platform, a technology obtained through our acquisition of CliQr Technologies, Inc. in fiscal 2016, is an application-defined platform that, together with the Cisco ACI networking solution, provides an infrastructure-agnostic way to streamline the modeling, migration, and management of applications across IT resources. Also, in fiscal 2016 we introduced our Tetration Analytics platform which supplements Cisco ACI offering by delivering real-time visibility across the data center using hardware, and software sensors to provide behavior-based application insight with deep forensic-based analysis.



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During fiscal 2016, we began shipping multi-gigabit-capable technology on Cisco Catalyst 4500-E, 3850 and 3560-CX switches. Cisco Catalyst multigigabit technology can deliver speeds beyond one Gigabit on the customers' existing Category 5e cable delivery standard, thereby utilizing capabilities in customers' existing cabling infrastructure to meet their bandwidth requirements. Multi-gigabit technology also enables intermediate data rates of 2.5 and 5 gigabits-per-second (Gbps) to ease the jump between traditional rates of one Gbps and ten Gbps. The technology also supports Cisco's power-over-ethernet capabilities known as PoE+, and Cisco Universal PoE (UPOE). PoE is a technology for wired ethernet local area networks (LANs) that allows the electrical current necessary for the operation of each device to be carried by the data cables rather than by power cords, thus minimizing the number of wires that must be installed with the network and thereby lowering cost and downtime and enabling easier maintenance and installation flexibility.

During fiscal 2016, we saw continued adoption of Cisco's Unified Access architecture based on the Unified Access Data Plane ASIC, which was first made available on the Cisco Catalyst 3850 and then added to the Cisco Catalyst 4500-E and the Cisco Catalyst 3650. The Unified Access platform has been adopted across all geographies and customer segments. During fiscal 2016, we continued to see adoption of our previously announced infrastructure initiatives focused on bringing "network as a sensor" and "network as an enforcer" capabilities across the portfolio. With security as top of mind for many customers, these capabilities provide analytics and control through the network for threat mitigation before, during, and after an attack.

Our switching products are used by customers in both data center and campus environments. Individually, our switching suite of products is designed to offer the performance and features required for nearly any deployment, from traditional small workgroups, wiring closets, and network cores to highly virtualized and converged corporate data centers. Working together with our wireless access solutions, these switches are, in our view, the building blocks of an integrated network that delivers scalable and advanced functionality solutions protecting, optimizing, and growing as a customer's business needs evolve.

**NGN Routing**

Next-Generation Networking (NGN) Routing technology is fundamental to the foundation of the Internet. This category of technologies interconnects public and private wireline and mobile networks for mobile, data, voice, and video applications. Our NGN Routing portfolio of hardware and software solutions consists primarily of physical and virtual routers, and routing and optical systems. Our solutions are designed to meet the scale, reliability, and security needs of our customers. In our view, our portfolio is differentiated from those of our competitors through the advanced capabilities, which we sometimes refer to as "intelligence," that our products provide at each layer of the network infrastructure to deliver performance in the transmission of information and media-rich applications.

We offer a broad range of hardware and software solutions, from core network infrastructure and mobile network routing solutions for service providers, and enterprises to access routers for branch offices and for telecommuters and consumers at home. Key product areas within our NGN Routing category are as follows:

High-End Routers	Midrange and Low-End Routers	Other NGN Routing
Cisco Aggregation Services Routers (ASRs):	Cisco Integrated Services Routers (ISRs):	Optical networking products:
<ul style="list-style-type: none"> <li>• Cisco ASR 900 and 920 Series</li> <li>• Cisco ASR 1000 Series</li> <li>• Cisco ASR 5000 and 5500 Series</li> <li>• Cisco ASR 9000 Series</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco 800 Series ISR</li> <li>• Cisco 1900 Series ISR</li> <li>• Cisco 2900 Series ISR</li> <li>• Cisco 3900 Series ISR</li> <li>• Cisco 4300 Series ISR</li> <li>• Cisco 4400 Series ISR</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco NCS 1000 Series</li> <li>• Cisco NCS 2000 Series</li> <li>• Cisco NCS 4000 Series</li> <li>• Cisco Cloud Services Router 1000V</li> <li>• Other routing products</li> </ul>
Cisco Carrier Routing Systems (CRS):		
<ul style="list-style-type: none"> <li>• Cisco CRS-1</li> <li>• Cisco CRS-3</li> <li>• Cisco CRS-X</li> </ul>		

Cisco Network Convergence System  
(NCS):

- Cisco NCS 6000 Series
- Cisco NCS 5000 Series
- Cisco NCS 5500 Series

Cisco 7600 Series  
Cisco 12000 Series

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During fiscal 2016, we saw continued growth in the bandwidth and capacity needs of our customers as they continued their large deployments and upgrade cycles of our high-end routing portfolio, mainly consisting of the ASR 9000, CRS and NCS 6000. The continued growth of video, the move to more data center interconnect and cloud technologies, as well as a migration to 100 Gigabit Ethernet (100GE) technologies were key factors driving this demand. We also launched and saw initial traction in a newer part of the Network Convergence System (NCS) portfolio, including two new categories of Ethernet optimized devices, consisting of the NCS 5500 and NCS 5000 product families in the high-end routing area and the NCS 1000 in the optical networking space. The portfolio also addresses growing segments of the market focused on web-scale customers, which are large cloud companies that deliver user services on a massive scale as well as service providers that seek more advanced features. In addition to hardware and systems, we also increased focus on modernization of the network infrastructure and new software technologies within our IOS XR operating system designed to simplify how customers manage, operate and automate their network infrastructures and thereby reduce costs as their networks grow. These solutions are examples of our intent to continue to combine ASICs, information systems, and software to develop NGN Routing products and services aligned with the needs of our customers.

**Collaboration**

Our Collaboration portfolio integrates voice, video, data, and mobile applications on fixed and mobile networks across a wide range of devices/endpoints and related IT equipment such as mobile phones, tablets, desktop and laptop computers, and desktop virtualization clients. Our strategy is to create compelling, innovative collaboration technology through the combined power of software, hardware, and the network with delivery in the cloud, on premises, or in a hybrid solution. Key product areas within our Collaboration category are as follows:

Unified Communications	Conferencing	Collaboration Endpoints	Business Messaging
<ul style="list-style-type: none"> <li>• Internet Protocol (IP) phones</li> <li>• Call control</li> <li>• Call center and messaging</li> <li>• Software-based instant-messaging (IM) clients</li> <li>• Communication gateways and unified communication</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco WebEx</li> <li>• Cisco TelePresence Server</li> <li>•</li> <li>• Cisco TelePresence Conductor</li> </ul>	<ul style="list-style-type: none"> <li>• Collaboration desk endpoints</li> <li>• Collaboration room endpoints</li> <li>• Immersive systems</li> </ul>	<ul style="list-style-type: none"> <li>• Cisco Spark</li> </ul>

We include all of our revenue from WebEx within the Collaboration product category. We made additional investments during fiscal 2016 in our Collaboration portfolio. As an example, we expanded Cisco Spark to become a platform for messaging, meeting and calling from the cloud. Additionally, we acquired Acano bringing increased scalability and enhanced interoperability to on-premises video conferencing. We also announced partnering arrangements with both Apple and IBM.

**Data Center**

The Cisco Unified Computing System (UCS) combines computing, networking and storage infrastructure with management and virtualization to offer speed, simplicity and scale. Our architecture provides pools of policy-driven infrastructure, that customers can optimize for traditional workloads, data analytics and cloud-native applications, all within a common operating environment with an open application program interface (API) for broad interoperability and automation. Key product areas within our Data Center product category are as follows:

**Cisco Unified Computing System (UCS):**

- Cisco UCS B-Series Blade Servers
- Cisco UCS C-Series Rack Servers
- Cisco UCS C3260 Storage Optimized Rack Server
- Cisco UCS Mini branch/remote site computing solution

- Cisco UCS Fabric Interconnects
  - Cisco UCS Manager and UCS Director Management Software
- Cisco HyperFlex Systems  
Private and Hybrid Cloud:
- Cisco ONE Enterprise Cloud Suite

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Our Data Center product innovations are designed to accelerate execution on our strategy, which is to enable customers to consolidate both physical and virtualized workloads, taking into account the customers' unique application requirements, onto a single scalable, centrally managed, and automated system. We offer a portfolio of solutions designed to preserve customer choice, accelerate business initiatives, reduce risk, lower the cost of IT, and represent a comprehensive solution when deployed.

Cisco UCS C3260, our storage optimized server, brings the UCS products' architectural advantages to parallel workloads, including cloud and web-scale applications. At the edge of the network, Cisco UCS Mini is an all-in-one solution optimized for branch and remote office, point-of-scale endpoint locations, and smaller IT environments. Additionally, we continued to invest in data center infrastructure management, and automation software within our Cisco UCS Manager and UCS Director product offerings.

During fiscal 2016, we expanded the Cisco UCS portfolio with the introduction of the next generation hyperconverged infrastructure, the Cisco HyperFlex Systems solution. Cisco HyperFlex represents hyperconvergence combining innovative software defined storage, and data services software with Cisco UCS. In addition, we continue to further enhance our Cisco ONE Enterprise Cloud Suite solution enabling private and hybrid clouds for enterprise customers. Wireless

Our wireless products provide indoor and outdoor wireless coverage with seamless roaming for voice, video, and data applications. They include wireless access points; standalone, controller-based, switch-converged, and cloud-managed technologies; and network managed services. These products deliver an optimized user experience over Wi-Fi and leverage the intelligence of the network. Our wireless solutions portfolio is enhanced with security and location-based services via our Connected Mobile Experiences (CMX) and Cisco Enterprise Mobility Services platforms. Our offerings are designed to provide users with simplified management, and mobile device troubleshooting features designed to reduce operational cost, and maximize flexibility and reliability. We are also investing in development with merchant or "off the shelf" silicon, and customized chipsets to deliver innovative product functionality to the Wi-Fi market. Our High Density Experience (HDX) suite of solutions (including Cisco CleanAir proactive spectrum intelligence, ClientLink to improve battery life on mobile devices, VideoStream for video optimization, and Flexible Radio Architecture software-defined radio technology) are examples of ongoing investment activity in this area. Key product areas within our Wireless category are as follows:

Cisco Aironet Series 802.11ac Wave 2 Access Points, Aironet 2800 Series, Aironet 1800 Series, Modules for Aironet 3000 AP Series (Hyperlocation, 3G Small Cell, Wireless Security, 802.11ac), Aironet 3800 Series

Cisco WLAN Controllers (standalone, virtual and integrated)

Cisco CMX (Connected Mobile Experiences) cloud and appliance-based platforms

Cisco Meraki MR Series Cloud Managed Access Points and integrated software services

In fiscal 2016, we introduced a comprehensive suite of 802.11ac Wave 2 access points across the Aironet and Meraki portfolios. We launched the first access points with an NBASE-T interface, allowing multi-gigabit speeds over a single Cat 5e/6 Ethernet cable to the access switch. Additionally, the CMX mobile engagement platform delivers location-based services, consumer analytics, and proximity messaging via a cloud-based offering.

Service Provider Video

Our Service Provider Video products include end-to-end, digital video systems, Data Over Cable System Interface Specification (DOCSIS) headends, and access equipment. These products enable service providers and content originators to deliver entertainment, information, and communication services to consumers and businesses. Key product areas within our Service Provider Video category are as follows:

Cable Access/Infrastructure

Cable/Telecommunications Access Infrastructure:

- Cable modem termination systems (CMTSs)
- Hybrid fiber coaxial (HFC) access network products
- Quadrature amplitude modulation (QAM) products

products

Network Function Virtualization (NFV) products

Service Provider Video Software and Solutions

- End-to-end video security solutions
- Digital headend portfolio for content acquisition and distribution
- Virtualized video processing (V2P)
- Cloud-based, SaaS-delivered end-to-end video entertainment solutions

Our DOCSIS cable access platform, the CBR-8, has the capability to scale to multi-gigabit broadband access speeds. During fiscal 2016, we continued the transformation of our video software portfolio toward a cloud and SaaS-focused strategy in response to market demand, including customer demand for faster speeds and video- over IP solutions. We also completed the acquisition of

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1 Mainstream, a provider of a cloud video platform solution designed to quickly launch live and on-demand over-the-top (OTT) video services to a wide range of connected devices.

On November 20, 2015, we completed the sale of the Customer Premises Equipment portion of our Service Provider Video Connected Devices business (“SP Video CPE Business”).

### Security

We believe that security is the top IT priority for many of our customers. We further believe that security solutions will help to protect the digital economy and will be an enabler that safeguards business interests and protect customers and thereby creates competitive advantage. We have invested in security through a build, buy, and partner strategy to provide security across the entire attack continuum before, during, and after a cyber attack.

We are delivering our security portfolio by taking an architectural approach designed to increase capability while reducing complexity through focusing on delivering simple, open, and automated solutions resulting in more effective security. Our security portfolio spans endpoints, the network, and the cloud. Our offerings cover the following network-related areas: network and data center security, advanced threat protection, web and email security, access and policy, unified threat management, and advisory, integration, and managed services.

In fiscal 2016, we completed the acquisition of OpenDNS, a cloud security platform designed to provide effective security. This platform is simple to deploy and operate. We have integrated OpenDNS with ThreatGRID (Cisco’s cloud and on premise sandboxing capability), AnyConnect (Cisco’s industry leading VPN client), and Cisco’s Integrated Services Routers (ISRs). In early fiscal 2017, we expanded our cloud security business by acquiring Cloudlock, Inc., a cloud access security broker (CASB). Cloudlock provides additional visibility and control directly in SaaS, platform-as-a-service (PaaS), and infrastructure-as-a-service (IaaS) environments through application program interfaces (APIs) that enable a rapid deployment, and quick time to value for customers.

During fiscal 2016, we further built upon the offerings from the Sourcefire acquisition by releasing our unified threat-focused next-generation firewall (NGFW) solution. We integrated our FirePOWER Services solution (Sourcefire’s NGIPS), and our Advanced Security Appliances (ASA) software capabilities to create the Firepower NGFW software and management platform. Additionally, we introduced a new NGFW hardware series that can be enabled with our Firepower NGFW software and management solution, the high performance Firepower 4100 Series.

In fiscal 2016, we also continued to expand our advanced threat protection portfolio. We acquired Lancope, Inc., a context-aware security analytics company. We continued to expand our Advanced Malware Protection (AMP) everywhere strategy by integrating AMP with our Unified Threat Management (Meraki MX) platforms, and by integrating our ThreatGRID appliances into our AMP enabled security solution.

### Other Products

Our Other Products category primarily consists of certain emerging technologies, and other networking products. This includes our continued investment in IoT with our acquisition of Jasper. Through this acquisition we intend to leverage new platforms to help our customers increase their volume of business, or otherwise address their most pressing challenges, in the IoT area.

### Service

In addition to our product offerings, we provide a broad range of service offerings, including technical support services and advanced services.

Technical support services help our customers ensure their products operate efficiently, remain available, and benefit from the most up-to-date system, and application software that we have developed. These services help customers protect their network investments, manage risk, and minimize downtime for systems running mission-critical applications. A key example of this is our Cisco Smart Services offering, which leverages the intelligence from the installed base of our products and customer connections to protect and optimize network investment for our customers and partners.

Advanced services are part of a comprehensive program that is focused on providing responsive, preventive, and consultative support of our technologies for specific networking needs. We are investing in and expanding our advanced services in the areas of cloud, security, and analytics, which reflects our strategy of selling customer outcomes.

The advanced services program supports networking devices, applications, solutions, and complete infrastructures. Our service and support strategy is focused on capitalizing on increased globalization. We believe this strategy, along with our architectural approach and networking expertise, has the potential to further differentiate us from competitors.

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### Customers and Markets

Many factors influence the IT, collaboration, and networking requirements of our customers. These include the size of the organization, number and types of technology systems, geographic location, and business applications deployed throughout the customer's network. Our customer base is not limited to any specific industry, geography, or market segment. In each of the past three fiscal years, no single customer accounted for 10% or more of revenue. Our customers primarily operate in the following markets: enterprise, commercial, service provider, and public sector.

#### Enterprise

Enterprise businesses are large regional, national, or global organizations with multiple locations or branch offices and typically employ 1,000 or more employees. Many enterprise businesses have unique IT, collaboration, and networking needs within a multivendor environment. We plan to take advantage of the network-as-a-platform strategy to integrate business processes with technology architectures to assist customer growth. We offer service and support packages, financing, and managed network services, primarily through our service provider partners. We sell these products through a network of third-party application and technology vendors and channel partners, as well as selling directly to these customers.

#### Commercial

We define commercial businesses as organizations which typically have fewer than 1,000 employees. We sell to the larger, or midmarket, customers within the commercial market through a combination of our direct sales force and channel partners. These customers typically require the latest advanced technologies that our enterprise customers demand, but with less complexity. Small businesses, or organizations with fewer than 100 employees, require information technologies and communication products that are easy to configure, install, and maintain. We sell to these smaller organizations within the commercial market primarily through channel partners.

#### Service Providers

Service providers offer data, voice, video, and mobile/wireless services to businesses, governments, utilities, and consumers worldwide. This customer market category includes regional, national, and international wireline carriers, as well as Internet, cable, and wireless providers. We also include media, broadcast, and content providers within our service provider market, as the lines in the telecommunications industry continue to blur between traditional network-based services, content-based and application-based services. Service providers use a variety of our routing and switching, optical, security, video, mobility, and network management products, systems, and services for their own networks. In addition, many service providers use Cisco data center, virtualization, and collaboration technologies to offer managed or Internet-based services to their business customers. Compared with other customers, service providers are more likely to require network design, deployment, and support services because of the greater scale and higher complexity of their networks, whose requirements are addressed, we believe, by our architectural approach.

#### Public Sector

Public sector entities include federal governments, state and local governments, as well as educational institution customers. Many public sector entities have unique IT, collaboration, and networking needs within a multivendor environment. We sell to public sector entities through a network of third-party application and technology vendors and channel partners, as well as through direct sales.

#### Sales Overview

As of the end of fiscal 2016, our worldwide sales and marketing departments consisted of approximately 25,500 employees, including managers, sales representatives, and technical support personnel. We have field sales offices in 95 countries, and we sell our products and services both directly and through a variety of channels with support from our salesforce. A substantial portion of our products and services is sold through channel partners, and the remainder is sold through direct sales. Channel partners include systems integrators, service providers, other resellers, and distributors.

Systems integrators and service providers typically sell directly to end users and often provide system installation, technical support, professional services, and other support services in addition to network equipment sales. Systems integrators also typically integrate our products into an overall solution. Some service providers are also systems integrators.

Distributors hold inventory and typically sell to systems integrators, service providers, and other resellers. We refer to sales through distributors as our two-tier system of sales to the end customer. Revenue from two-tier distributors is recognized based on a sell-through method using point of sales information provided by these distributors. These distributors are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling prices, and participate in various cooperative marketing programs.

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For information regarding risks related to our channels, see “Item 1A. Risk Factors,” including the risk factors entitled “Disruption of, or changes in, our distribution model could harm our sales and margins” and “Our inventory management relating to our sales to our two-tier distribution channel is complex, and excess inventory may harm our gross margins.”

For information regarding risks relating to our international operations, see “Item 1A. Risk Factors,” including the risk factors entitled “Our operating results may be adversely affected by unfavorable economic and market conditions and the uncertain geopolitical environment;” “Entrance into new or developing markets exposes us to additional competition and will likely increase demands on our service and support operations;” “Due to the global nature of our operations, political or economic changes or other factors in a specific country or region could harm our operating results and financial condition;” “We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows;” and “Man-made problems such as computer viruses or terrorism may disrupt our operations and harm our operating results,” among others.

Our service offerings complement our products through a range of consulting, technical, project, quality, and software maintenance services, including 24-hour online and telephone support through technical assistance centers.

### Financing Arrangements

We provide financing arrangements for certain qualified customers to build, maintain, and upgrade their networks. We believe customer financing is a competitive advantage in obtaining business, particularly for those customers involved in significant infrastructure projects. Our financing arrangements include the following:

#### Leases:

- Sales-type
- Direct financing
- Operating

#### Loans

Financed service contracts

Channels financing arrangements

End-user financing arrangements

### Product Backlog

Our product backlog at July 30, 2016 was approximately \$4.6 billion, an increase of 1% year over year, after excluding the fiscal 2015 year-end balance of SP Video CPE Business backlog. Our product backlog at July 25, 2015 was approximately \$5.1 billion, including SP Video CPE Business backlog. The product backlog includes orders confirmed for products planned to be shipped within 90 days to customers with approved credit status. Subscription-based sales arrangements are not included in product backlog. Our cycle time between order and shipment is generally short and customers occasionally change delivery schedules. Additionally, orders can be canceled without significant penalties. As a result of these factors, we do not believe that our product backlog, as of any particular date, is necessarily indicative of actual product revenue for any future period.

### Acquisitions, Investments, and Alliances

The markets in which we compete require a wide variety of technologies, products, and capabilities. Our growth strategy is based on the components of innovation, which we sometimes refer to as our “build, buy, and partner” approach. The foregoing is a way of describing how we innovate: we can internally develop, or build, our own innovative solutions; we can acquire, or buy, companies with innovative technologies; and we can partner with companies to jointly develop and/or resell product technologies and innovations. The combination of technological complexity, and rapid change within our markets makes it difficult for a single company to develop all of the technological solutions that it desires to offer within its family of products and services. We work to broaden the range of products and services we deliver to customers in target markets through acquisitions, investments, and alliances. To summarize, we employ the following strategies to address the need for new or enhanced networking, and communications products and services:

• Developing new technologies and products internally

• Acquiring all or parts of other companies

• Entering into joint development efforts with other companies

Reselling other companies' products

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### Acquisitions

We have acquired many companies, and we expect to make future acquisitions. Mergers and acquisitions of high-technology companies are inherently risky, especially if the acquired company has yet to ship a product. No assurance can be given that our previous or future acquisitions will be successful or will not materially adversely affect our financial condition or operating results. Prior acquisitions have resulted in a wide range of outcomes, from successful introduction of new products and technologies to an inability to do so. The risks associated with acquisitions are more fully discussed in “Item 1A. Risk Factors,” including the risk factor entitled “We have made and expect to continue to make acquisitions that could disrupt our operations and harm our operating results.”

### Investments in Privately Held Companies

We make investments in privately held companies that develop technology or provide services that are complementary to our products or that provide strategic value. The risks associated with these investments are more fully discussed in “Item 1A. Risk Factors,” including the risk factor entitled “We are exposed to fluctuations in the market values of our portfolio investments and in interest rates; impairment of our investments could harm our earnings.”

### Strategic Alliances

We pursue strategic alliances with other companies in areas where collaboration can produce industry advancement and acceleration of new markets. The objectives and goals of a strategic alliance can include one or more of the following: technology exchange, product development, joint sales and marketing, or new market creation. Companies with which we have, or recently had, strategic alliances include the following:

Accenture Ltd; Apple Inc.; AT&T Inc.; Cap Gemini S.A.; Citrix Systems, Inc.; EMC Corporation; LM Ericsson Telephone Company; Fujitsu Limited; Inspur Group Ltd.; Intel Corporation; International Business Machines Corporation; Italtel SpA; Johnson Controls Inc.; Microsoft Corporation; NetApp, Inc.; Oracle Corporation; Red Hat, Inc.; SAP AG; Sprint Nextel Corporation; Tata Consultancy Services Ltd.; VCE Company, LLC (“VCE”); VMware, Inc.; Wipro Limited; and others.

Companies with which we have strategic alliances in some areas may be competitors in other areas, and in our view this trend may increase. The risks associated with our strategic alliances are more fully discussed in “Item 1A. Risk Factors,” including the risk factor entitled “If we do not successfully manage our strategic alliances, we may not realize the expected benefits from such alliances, and we may experience increased competition or delays in product development.”

### Competition

We compete in the networking and communications equipment markets, providing products and services for transporting data, voice, and video traffic across intranets, extranets, and the Internet. These markets are characterized by rapid change, converging technologies, and a migration to networking and communications solutions that offer relative advantages. These market factors represent both an opportunity, and a competitive threat to us. We compete with numerous vendors in each product category. The overall number of our competitors providing niche product solutions may increase. Also, the identity and composition of competitors may change as we increase our activity in our new product markets. As we continue to expand globally, we may see new competition in different geographic regions. In particular, we have experienced price-focused competition from competitors in Asia, especially from China, and we anticipate this will continue.

Our competitors include Amazon Web Services LLC; Arista Networks, Inc.; ARRIS Group, Inc.; Avaya Inc.; Blue Jeans Networks, Brocade Communications Systems, Inc.; Check Point Software Technologies Ltd.; Citrix Systems, Inc.; Dell Inc.; Extreme Networks, Inc.; F5 Networks, Inc.; FireEye, Inc.; Fortinet, Inc.; Hewlett-Packard Enterprise Company; Huawei Technologies Co., Ltd.; International Business Machines Corporation; Juniper Networks, Inc.; Lenovo Group Limited; Microsoft Corporation; Nokia Corporation; Palo Alto Networks, Inc.; Polycom, Inc.; Riverbed Technology, Inc.; Symantec Corporation; Ubiquiti Networks and VMware, Inc.; among others.

Some of these companies compete across many of our product lines, while others are primarily focused in a specific product area. Barriers to entry are relatively low, and new ventures to create products that do or could compete with our products are regularly formed. In addition, some of our competitors may have greater resources, including technical and engineering resources, than we do. 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. We also sometimes face competition from resellers and distributors of our products. Companies with which we have strategic alliances in some areas may be competitors in other areas, and in our view this trend may increase. For example, the enterprise data center is undergoing a fundamental transformation arising from the convergence of technologies, including computing, networking, storage, and software, that previously were segregated within the data center. Due to several factors, including the availability of highly scalable and general purpose microprocessors, application-specific integrated circuits offering advanced services, standards-based protocols, cloud computing, and virtualization, the convergence of technologies within the enterprise data center is spanning multiple,



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previously independent, technology segments. Also, some of our current and potential competitors for enterprise data center business have made acquisitions, or announced new strategic alliances, designed to position them to provide end-to-end technology solutions for the enterprise data center. As a result of all of these developments, we face greater competition in the development and sale of enterprise data center technologies, including competition from entities that are among our long-term strategic alliance partners. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us.

The principal competitive factors in the markets in which we presently compete and may compete in the future include:

- The ability to sell successful business outcomes
- The ability to provide a broad range of networking and communications products and services
- Product performance
- Price
- The ability to introduce new products, including products with price-performance advantages
- The ability to reduce production costs
- The ability to provide value-added features such as security, reliability, and investment protection
- Conformance to standards
- Market presence
- The ability to provide financing
- Disruptive technology shifts and new business models

We also face competition from customers to which we license or supply technology, and suppliers from which we transfer technology. The inherent nature of networking requires interoperability. Therefore, we must cooperate and at the same time compete with many companies. Any inability to effectively manage these complicated relationships with customers, suppliers, and strategic alliance partners could have a material adverse effect on our business, operating results, and financial condition and accordingly affect our chances of success.

**Research and Development**

We regularly seek to introduce new products and features to address the requirements of our markets. We allocate our research and development budget among our product categories, which consist of Switching, NGN Routing, Collaboration, Service Provider Video, Data Center, Wireless, Security, and Other Product technologies. Our research and development expenditures were \$6.3 billion, \$6.2 billion, and \$6.3 billion in fiscal 2016, 2015, and 2014, respectively. These expenditures are applied generally to all product areas, with specific areas of focus being identified from time to time. Recent areas of increased focus include, but are not limited to, our core routing and switching products, collaboration, security and products related to the data center. Our expenditures for research and development costs were expensed as incurred.

The industry in which we compete is subject to rapid technological developments, evolving standards, changes in customer requirements, and new product introductions and enhancements. As a result, our success depends in part upon our ability, on a cost-effective and timely basis, to continue to enhance our existing products and to develop and introduce new products that improve performance, and reduce total cost of ownership. To achieve these objectives, our management and engineering personnel work with customers to identify and respond to customer needs, as well as with other innovators of internetworking products, including universities, laboratories, and corporations. We also expect to continue to make acquisitions and investments, where appropriate, to provide us with access to new technologies. Nonetheless, there can be no assurance that we will be able to successfully develop products to address new customer requirements and technological changes or that those products will achieve market acceptance.

**Manufacturing**

We rely on contract manufacturers for all of our manufacturing needs. We presently use a variety of independent third-party companies to provide services related to printed-circuit board assembly, in-circuit test, product repair, and product assembly. Proprietary software on electronically programmable memory chips is used to configure products that meet customer requirements and to maintain quality control and security. The manufacturing process enables us to configure the hardware and software in unique combinations to meet a wide variety of individual customer requirements. The manufacturing process uses automated testing equipment and burn-in procedures, as well as

comprehensive inspection, testing, and statistical process controls, which are designed to help ensure the quality and reliability of our products. The manufacturing processes and procedures are generally certified to International Organization for Standardization (ISO) 9001 or ISO 9003 standards.

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Our arrangements with contract manufacturers generally provide for quality, cost, and delivery requirements, as well as manufacturing process terms, such as continuity of supply; inventory management; flexibility regarding capacity, quality, and cost management; oversight of manufacturing; and conditions for use of our intellectual property. We have not entered into any significant long-term contracts with any manufacturing service provider. We generally have the option to renew arrangements on an as-needed basis. These arrangements generally do not commit us to purchase any particular amount or any quantities beyond certain amounts covered by orders or forecasts that we submit covering discrete periods of time, defined as less than one year.

Patents, Intellectual Property, and Licensing

We seek to establish and maintain our proprietary rights in our technology and products through the use of patents, copyrights, trademarks, and trade secret laws. We have a program to file applications for and obtain patents, copyrights, and trademarks in the United States and in selected foreign countries where we believe filing for such protection is appropriate. We also seek to maintain our trade secrets and confidential information by nondisclosure policies and through the use of appropriate confidentiality agreements. We have obtained a substantial number of patents and trademarks in the United States and in other countries. There can be no assurance, however, that the rights obtained can be successfully enforced against infringing products in every jurisdiction. Although we believe the protection afforded by our patents, copyrights, trademarks, and trade secrets has value, the rapidly changing technology in the networking industry and uncertainties in the legal process make our future success dependent primarily on the innovative skills, technological expertise, and management abilities of our employees rather than on the protection afforded by patent, copyright, trademark, and trade secret laws.

Many of our products are designed to include software or other intellectual property licensed from third parties. While it may be necessary in the future to seek or renew licenses relating to various aspects of our products, we believe, based upon past experience and standard industry practice that such licenses generally could be obtained on commercially reasonable terms. Nonetheless, there can be no assurance that the necessary licenses would be available on acceptable terms, if at all. Our inability to obtain certain licenses or other rights or to obtain such licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could have a material adverse effect on our business, operating results, and financial condition. Moreover, inclusion in our products of software or other intellectual property licensed from third parties on a nonexclusive basis can limit our ability to protect our proprietary rights in our products.

The industry in which we compete is characterized by rapidly changing technology, a large number of patents, and frequent claims and related litigation regarding patent and other intellectual property rights. There can be no assurance that our patents and other proprietary rights will not be challenged, invalidated, or circumvented; that others will not assert intellectual property rights to technologies that are relevant to us; or that our rights will give us a competitive advantage. In addition, the laws of some foreign countries may not protect our proprietary rights to the same extent as the laws of the United States. The risks associated with patents and intellectual property are more fully discussed in “Item 1A. Risk Factors,” including the risk factors entitled “Our proprietary rights may prove difficult to enforce,” “We may be found to infringe on intellectual property rights of others,” and “We rely on the availability of third-party licenses.”

Employees

Employees are summarized as follows (approximate numbers):

	July 30, 2016
Employees by geography:	
United States	37,550
Rest of world	36,150
Total	73,700
Employees by line item on the Consolidated Statements of Operations:	
Cost of sales <sup>(1)</sup>	19,500
Research and development	21,250
Sales and marketing	25,500
General and administrative	7,450

Total 73,700

(1) Cost of sales includes manufacturing support, services, and training.

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## Executive Officers of the Registrant

The following table shows the name, age, and position as of August 31, 2016 of each of our executive officers:

Name	Age	Position with the Company
Charles H. Robbins	50	Chief Executive Officer and Director
John T. Chambers	67	Executive Chairman
Mark Chandler	60	Senior Vice President, Legal Services, General Counsel and Chief Compliance Officer
Chris Dediccoat	59	Executive Vice President, Worldwide Sales and Field Operations
Rebecca Jacoby	54	Senior Vice President and Chief of Operations
Kelly A. Kramer	49	Executive Vice President and Chief Financial Officer
Karen Walker	54	Senior Vice President and Chief Marketing Officer

Mr. Robbins has served as Chief Executive Officer since July 2015 and as a member of the Board of Directors since May 2015. He joined Cisco in December 1997, from which time until March 2002 he held a number of managerial positions within Cisco's sales organization. Mr. Robbins was promoted to Vice President in March 2002, assuming leadership of Cisco's U.S. channel sales organization. Additionally, in July 2005 he assumed leadership of Cisco's Canada channel sales organization. In December 2007, Mr. Robbins was promoted to Senior Vice President, U.S. Commercial, and in August 2009 he was appointed Senior Vice President, U.S. Enterprise, Commercial and Canada. In July 2011, Mr. Robbins was named Senior Vice President, Americas. In October 2012, Mr. Robbins was promoted to Senior Vice President, Worldwide Field Operations, in which position he served until assuming the role of Chief Executive Officer.

Mr. Chambers has served as a member of the Board of Directors since November 1993. Mr. Chambers, who was appointed Executive Chairman in July 2015, served as Cisco's Chief Executive Officer from January 1995 until July 2015, and he also served as President from January 1995 to November 2006. He joined Cisco as Senior Vice President in January 1991 and was promoted to Executive Vice President in June 1994, prior to assuming the roles of President and Chief Executive Officer in January 1995. Before joining Cisco, Mr. Chambers was employed by Wang Laboratories, Inc. for eight years, where, in his last role, he was the Senior Vice President of U.S. Operations. Mr. Chandler joined Cisco in July 1996, upon Cisco's acquisition of StrataCom, Inc., where he served as General Counsel. He served as Cisco's Managing Attorney for Europe, the Middle East, and Africa from December 1996 until June 1999; as Director, Worldwide Legal Operations from June 1999 until February 2001; and was promoted to Vice President, Worldwide Legal Services in February 2001. In October 2001, Mr. Chandler was promoted to Vice President, Legal Services and General Counsel, and in May 2003 he additionally was appointed Secretary, a position he held through November 2015. In February 2006, Mr. Chandler was promoted to Senior Vice President, and in May 2012 he was appointed Chief Compliance Officer. Before joining StrataCom, Mr. Chandler had served as Vice President, Corporate Development and General Counsel of Maxtor Corporation.

Mr. Dediccoat joined Cisco in June 1995 and has held various leadership positions within Cisco's sales organization. From June 1995 through April 1999, he served as a manager and then as a director within the United Kingdom portion of Cisco's Europe sales organization, overseeing both commercial and enterprise accounts. In April 1999, Mr. Dediccoat was appointed Vice President, Europe, and in June 2003 he was promoted to Senior Vice President, Europe, serving as Cisco's lead sales executive for Europe. In July 2011, Mr. Dediccoat was appointed Senior Vice President, EMEA (Europe, Middle East, and Africa). Mr. Dediccoat was appointed to his current position effective July 2015.

Ms. Jacoby joined Cisco in March 1995 and has held a number of leadership positions with Cisco. She served, successively, as a manager, director and vice president within Cisco's global supply chain organization from March 1995 until November 2003. In November 2003, Ms. Jacoby assumed the role of Vice President, Customer Service and Operations Systems, serving in this capacity until October 2006 when she was appointed Senior Vice President and Chief Information Officer (CIO) of Cisco. Ms. Jacoby held the SVP/CIO position until being promoted to her current position effective July 2015. She is a member of the board of directors of S&P Global Inc.

Ms. Kramer joined Cisco in January 2012 as Senior Vice President, Corporate Finance. She served in that position until October 2014 and served as Cisco's Senior Vice President, Business Technology and Operations Finance from October 2013 until December 2014. She was appointed to her current position effective January 2015. From January 2009 until she joined Cisco, Ms. Kramer served as Vice President and Chief Financial Officer of GE Healthcare

Systems. Ms. Kramer served as Vice President and Chief Financial Officer of GE Healthcare Diagnostic Imaging from August 2007 to January 2009 and as Chief Financial Officer of GE Healthcare Biosciences from January 2006 to July 2007. Prior to that, Ms. Kramer held various leadership positions with GE corporate and other GE businesses. She is a member of the board of directors of Gilead Sciences, Inc.

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Ms. Walker joined Cisco in November 2008, serving from November 2008 through January 2012 as Vice President, Services Marketing. From February 2012 to January 2013, Ms. Walker served as Senior Vice President, Segment, Services and Partner Marketing, and from February 2013 until May 2015 as Senior Vice President, Go To Market. In May 2015, Ms. Walker was promoted to her current position. Ms. Walker joined Cisco from Hewlett-Packard, where she held business and consumer leadership positions including Vice President of Alliances and Marketing for HP Services, and Vice President of Strategy and Marketing for both the Consumer Digital Entertainment and Personal Systems groups.

Item 1A. Risk Factors

Set forth below and elsewhere in this report and in other documents we file with the SEC are descriptions of the risks and uncertainties that could cause our actual results to differ materially from the results contemplated by the forward-looking statements contained in this report.

**OUR OPERATING RESULTS MAY FLUCTUATE IN FUTURE PERIODS, WHICH MAY ADVERSELY AFFECT OUR STOCK PRICE**

Our operating results have been in the past, and will continue to be, subject to quarterly and annual fluctuations as a result of numerous factors, some of which may contribute to more pronounced fluctuations in an uncertain global economic environment. These factors include:

- Fluctuations in demand for our products and services, especially with respect to telecommunications service providers and Internet businesses, in part due to changes in the global economic environment
  - Changes in sales and implementation cycles for our products and reduced visibility into our customers' spending plans and associated revenue
    - Our ability to maintain appropriate inventory levels and purchase commitments
  - Price and product competition in the communications and networking industries, which can change rapidly due to technological innovation and different business models from various geographic regions
  - The overall movement toward industry consolidation among both our competitors and our customers
  - The introduction and market acceptance of new technologies and products and our success in new and evolving markets, including in our newer product categories such as data center and collaboration and in emerging technologies, as well as the adoption of new standards
  - New business models for our offerings, such as other-as-a-service (XaaS), where costs are borne up front while revenue is recognized over time
  - Variations in sales channels, product costs, mix of products sold, or mix of direct sales and indirect sales.
  - The timing, size, and mix of orders from customers
  - Manufacturing and customer lead times
    - Fluctuations in our gross margins, and the factors that contribute to such fluctuations, as described below
- The ability of our customers, channel partners, contract manufacturers and suppliers to obtain financing or to fund capital expenditures, especially during a period of global credit market disruption or in the event of customer, channel partner, contract manufacturer or supplier financial problems
- Share-based compensation expense
- Actual events, circumstances, outcomes, and amounts differing from judgments, assumptions, and estimates used in determining the values of certain assets (including the amounts of related valuation allowances), liabilities, and other items reflected in our Consolidated Financial Statements
- How well we execute on our strategy and operating plans and the impact of changes in our business model that could result in significant restructuring charges

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- Our ability to achieve targeted cost reductions
- Benefits anticipated from our investments in engineering, sales, service, and marketing
- Changes in tax laws or accounting rules, or interpretations thereof

As a consequence, operating results for a particular future period are difficult to predict, and, therefore, prior results are not necessarily indicative of results to be expected in future periods. Any of the foregoing factors, or any other factors discussed elsewhere herein, could have a material adverse effect on our business, results of operations, and financial condition that could adversely affect our stock price.

**OUR OPERATING RESULTS MAY BE ADVERSELY AFFECTED BY UNFAVORABLE ECONOMIC AND MARKET CONDITIONS AND THE UNCERTAIN GEOPOLITICAL ENVIRONMENT**

Challenging economic conditions worldwide have from time to time contributed, and may continue to contribute, to slowdowns in the communications and networking industries at large, as well as in specific segments and markets in which we operate, resulting in:

- Reduced demand for our products as a result of continued constraints on IT-related capital spending by our customers, particularly service providers, and other customer markets as well
- Increased price competition for our products, not only from our competitors but also as a consequence of customers disposing of unutilized products
- Risk of excess and obsolete inventories
- Risk of supply constraints
- Risk of excess facilities and manufacturing capacity
- Higher overhead costs as a percentage of revenue and higher interest expense

The global macroeconomic environment has been challenging and inconsistent. Instability in the global credit markets, the impact of uncertainty regarding global central bank monetary policy, the instability in the geopolitical environment in many parts of the world including as a result of the recent United Kingdom “Brexit” referendum to withdraw from the European Union, the current economic challenges in China, including global economic ramifications of Chinese economic difficulties, and other disruptions may continue to put pressure on global economic conditions. If global economic and market conditions, or economic conditions in key markets, remain uncertain or deteriorate further, we may experience material impacts on our business, operating results, and financial condition. Our operating results in one or more segments may also be affected by uncertain or changing economic conditions particularly germane to that segment or to particular customer markets within that segment. For example, emerging countries in the aggregate experienced a decline in orders during the fourth quarter of fiscal 2016, and also in fiscal 2014 and fiscal 2015.

In addition, reports of certain intelligence gathering methods of the U.S. government could affect customers’ perception of the products of IT companies which design and manufacture products in the United States. Trust and confidence in us as an IT supplier is critical to the development and growth of our markets. Impairment of that trust, or foreign regulatory actions taken in response to reports of certain intelligence gathering methods of the U.S. government, could affect the demand for our products from customers outside of the United States and could have an adverse effect on our operating results.

**WE HAVE BEEN INVESTING AND EXPECT TO CONTINUE TO INVEST IN KEY PRIORITY AND GROWTH AREAS AS WELL AS MAINTAINING LEADERSHIP IN ROUTING, SWITCHING AND SERVICES, AND IF THE RETURN ON THESE INVESTMENTS IS LOWER OR DEVELOPS MORE SLOWLY THAN WE EXPECT, OUR OPERATING RESULTS MAY BE HARMED**

We expect to realign and dedicate resources into key priority and growth areas, such as security, IoT, collaboration, next generation data center, cloud, and software, while also focusing on maintaining leadership in routing, switching and services. However, the return on our investments may be lower, or may develop more slowly, than we expect. If we do not achieve the benefits anticipated from these investments (including if our selection of areas for investment does not play out as we expect), or if the achievement of these benefits is delayed, our operating results may be adversely affected.





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**OUR REVENUE FOR A PARTICULAR PERIOD IS DIFFICULT TO PREDICT, AND A SHORTFALL IN REVENUE MAY HARM OUR OPERATING RESULTS**

As a result of a variety of factors discussed in this report, our revenue for a particular quarter is difficult to predict, especially in light of a challenging and inconsistent global macroeconomic environment and related market uncertainty.

Our revenue may grow at a slower rate than in past periods or decline as it did in fiscal 2014 on a year-over-year basis. Our ability to meet financial expectations could also be adversely affected if the nonlinear sales pattern seen in some of our past quarters recurs in future periods. We have experienced periods of time during which shipments have exceeded net bookings or manufacturing issues have delayed shipments, leading to nonlinearity in shipping patterns. In addition to making it difficult to predict revenue for a particular period, nonlinearity in shipping can increase costs, because irregular shipment patterns result in periods of underutilized capacity and periods in which overtime expenses may be incurred, as well as in potential additional inventory management-related costs. In addition, to the extent that manufacturing issues and any related component shortages result in delayed shipments in the future, and particularly in periods in which our contract manufacturers are operating at higher levels of capacity, it is possible that revenue for a quarter could be adversely affected if such matters occur and are not remediated within the same quarter.

The timing of large orders can also have a significant effect on our business and operating results from quarter to quarter, primarily in the United States and in emerging countries. From time to time, we receive large orders that have a significant effect on our operating results in the period in which the order is recognized as revenue. The timing of such orders is difficult to predict, and the timing of revenue recognition from such orders may affect period to period changes in revenue. As a result, our operating results could vary materially from quarter to quarter based on the receipt of such orders and their ultimate recognition as revenue.

Inventory management remains an area of focus. We have experienced longer than normal manufacturing lead times in the past which have caused some customers to place the same order multiple times within our various sales channels and to cancel the duplicative orders upon receipt of the product, or to place orders with other vendors with shorter manufacturing lead times. Such multiple ordering (along with other factors) or risk of order cancellation may cause difficulty in predicting our revenue and, as a result, could impair our ability to manage parts inventory effectively. In addition, our efforts to improve manufacturing lead-time performance may result in corresponding reductions in order backlog. A decline in backlog levels could result in more variability and less predictability in our quarter-to-quarter revenue and operating results. In addition, when facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations which in turn contribute to an increase in purchase commitments. Increases in our purchase commitments to shorten lead times could also lead to excess and obsolete inventory charges if the demand for our products is less than our expectations.

We plan our operating expense levels based primarily on forecasted revenue levels. These expenses and the impact of long-term commitments are relatively fixed in the short term. A shortfall in revenue could lead to operating results being below expectations because we may not be able to quickly reduce these fixed expenses in response to short-term business changes.

Any of the above factors could have a material adverse impact on our operations and financial results.

**WE EXPECT GROSS MARGIN TO VARY OVER TIME, AND OUR LEVEL OF PRODUCT GROSS MARGIN MAY NOT BE SUSTAINABLE**

Although our product gross margin increased in fiscal 2016, our level of product gross margins have declined in certain prior periods and could decline in future quarters due to adverse impacts from various factors, including:

- Changes in customer, geographic, or product mix, including mix of configurations within each product group
  - Introduction of new products, including products with price-performance advantages, and new business models for our offerings such as XaaS
- 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
- Sales discounts
-

Increases in material, labor or other manufacturing-related costs, which could be significant especially during periods of supply constraints

- Excess inventory and inventory holding charges

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- 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
- Lower than expected benefits from value engineering
- Increased price competition, including competitors from Asia, especially from China
- Changes in distribution channels
- Increased warranty costs
- Increased amortization of purchased intangible assets, especially from acquisitions
- How well we execute on our strategy and operating plans

Changes in service gross margin may result from various factors such as changes in the mix between technical support services and advanced services, as well as the timing of technical support service contract initiations and renewals and the addition of personnel and other resources to support higher levels of service business in future periods.

### **SALES TO THE SERVICE PROVIDER MARKET ARE ESPECIALLY VOLATILE, AND WEAKNESS IN SALES ORDERS FROM THIS INDUSTRY MAY HARM OUR OPERATING RESULTS AND FINANCIAL CONDITION**

Sales to the service provider market have been characterized by large and sporadic purchases, especially relating to our router sales and sales of certain products in our newer product categories such as Data Center, Collaboration, and Service Provider Video, in addition to longer sales cycles. Sales to the service provider market decreased in 2016. At various times in the past, including in fiscal 2014 and fiscal 2015, we experienced significant weakness in sales to service providers. Sales to the service provider market could continue to decline and, as has been the case in the past, such sales weakness could persist over extended periods of time given fluctuating market conditions. Sales activity in this industry depends upon the stage of completion of expanding network infrastructures; the availability of funding; and the extent to which service providers are affected by regulatory, economic, and business conditions in the country of operations. Weakness in orders from this industry, including as a result of any slowdown in capital expenditures by service providers (which may be more prevalent during a global economic downturn or periods of economic uncertainty), could have a material adverse effect on our business, operating results, and financial condition. Such slowdowns may continue or recur in future periods. Orders from this industry could decline for many reasons other than the competitiveness of our products and services within their respective markets. For example, in the past, many of our service provider customers have been materially and adversely affected by slowdowns in the general economy, by overcapacity, by changes in the service provider market, by regulatory developments, and by constraints on capital availability, resulting in business failures and substantial reductions in spending and expansion plans. These conditions have materially harmed our business and operating results in the past, and some of these or other conditions in the service provider market could affect our business and operating results in any future period. Finally, service provider customers typically have longer implementation cycles; require a broader range of services, including design services; demand that vendors take on a larger share of risks; often require acceptance provisions, which can lead to a delay in revenue recognition; and expect financing from vendors. All these factors can add further risk to business conducted with service providers.

### **DISRUPTION OF OR CHANGES IN OUR DISTRIBUTION MODEL COULD HARM OUR SALES AND MARGINS**

If we fail to manage distribution of our products and services properly, or if our distributors' financial condition or operations weaken, our revenue and gross margins could be adversely affected.

A substantial portion of our products and services is sold through our channel partners, and the remainder is sold through direct sales. Our channel partners include systems integrators, service providers, other resellers, and distributors. Systems integrators and service providers typically sell directly to end users and often provide system installation, technical support, professional services, and other support services in addition to network equipment sales. Systems integrators also typically integrate our products into an overall solution, and a number of service

providers are also systems integrators. Distributors stock inventory and typically sell to systems integrators, service providers, and other resellers. We refer to sales through distributors as our two-tier system of

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sales to the end customer. Revenue from distributors is generally recognized based on a sell-through method using information provided by them. These distributors are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling prices, and participate in various cooperative marketing programs. If sales through indirect channels increase, this may lead to greater difficulty in forecasting the mix of our products and, to a degree, the timing of orders from our customers.

Historically, we have seen fluctuations in our gross margins based on changes in the balance of our distribution channels. Although variability to date has not been significant, there can be no assurance that changes in the balance of our distribution model in future periods would not have an adverse effect on our gross margins and profitability. Some factors could result in disruption of or changes in our distribution model, which could harm our sales and margins, including the following:

- We compete with some of our channel partners, including through our direct sales, which may lead these channel partners to use other suppliers that do not directly sell their own products or otherwise compete with them
- Some of our channel partners may demand that we absorb a greater share of the risks that their customers may ask them to bear
- Some of our channel partners may have insufficient financial resources and may not be able to withstand changes and challenges in business conditions
- Revenue from indirect sales could suffer if our distributors' financial condition or operations weaken

In addition, we depend on our channel partners globally to comply with applicable regulatory requirements. To the extent that they fail to do so, that could have a material adverse effect on our business, operating results, and financial condition. Further, sales of our products outside of agreed territories can result in disruption to our distribution channels.

### THE MARKETS IN WHICH WE COMPETE ARE INTENSELY COMPETITIVE, WHICH COULD ADVERSELY AFFECT OUR ACHIEVEMENT OF REVENUE GROWTH

The markets in which we compete are characterized by rapid change, converging technologies, and a migration to networking and communications solutions that offer relative advantages. These market factors represent a competitive threat to us. We compete with numerous vendors in each product category. The overall number of our competitors providing niche product solutions may increase. Also, the identity and composition of competitors may change as we increase our activity in newer product categories such as data center and collaboration and in key priority and growth areas. For example, as products related to network programmability, such as SDN products, become more prevalent, we expect to face increased competition from companies that develop networking products based on commoditized hardware, referred to as "white box" hardware, to the extent customers decide to purchase those product offerings instead of ours. In addition, the growth in demand for technology delivered as a service enables new competitors to enter the market.

As we continue to expand globally, we may see new competition in different geographic regions. In particular, we have experienced price-focused competition from competitors in Asia, especially from China, and we anticipate this will continue. For information regarding our competitors, see the section entitled "Competition" contained in Item 1. Business of this report.

Some of our competitors compete across many of our product lines, while others are primarily focused in a specific product area. Barriers to entry are relatively low, and new ventures to create products that do or could compete with our products are regularly formed. In addition, some of our competitors may have greater resources, including technical and engineering resources, than we do. 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. We also sometimes face competition from resellers and distributors of our products. Companies with which we have strategic alliances in some areas may be competitors in other areas, and in our view this trend may increase.

For example, the enterprise data center is undergoing a fundamental transformation arising from the convergence of technologies, including computing, networking, storage, and software, that previously were segregated. Due to several factors, including the availability of highly scalable and general purpose microprocessors, ASICs offering advanced services, standards based protocols, cloud computing and virtualization, the convergence of technologies within the

enterprise data center is spanning multiple, previously independent, technology segments. Also, some of our current and potential competitors for enterprise data center business have made acquisitions, or announced new strategic alliances, designed to position them to provide end-to-end technology solutions for the enterprise data center. As a result of all of these developments, we face greater competition in the development and sale of enterprise data center technologies, including competition from entities that are among our long-term strategic alliance

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partners. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us.

The principal competitive factors in the markets in which we presently compete and may compete in the future include:

- The ability to provide a broad range of networking and communications products and services
- Product performance
- Price
- The ability to introduce new products, including products with price-performance advantages
- The ability to reduce production costs
  - The ability to provide value-added features such as security, reliability, and investment protection
- Conformance to standards
- Market presence
- The ability to provide financing
- Disruptive technology shifts and new business models

We also face competition from customers to which we license or supply technology and suppliers from which we transfer technology. The inherent nature of networking requires interoperability. As such, we must cooperate and at the same time compete with many companies. Any inability to effectively manage these complicated relationships with customers, suppliers, and strategic alliance partners could have a material adverse effect on our business, operating results, and financial condition and accordingly affect our chances of success.

### **OUR INVENTORY MANAGEMENT RELATING TO OUR SALES TO OUR TWO-TIER DISTRIBUTION CHANNEL IS COMPLEX, AND EXCESS INVENTORY MAY HARM OUR GROSS MARGINS**

We must manage our inventory relating to sales to our distributors effectively, because inventory held by them could affect our results of operations. Our distributors may increase orders during periods of product shortages, cancel orders if their inventory is too high, or delay orders in anticipation of new products. They also may adjust their orders in response to the supply of our products and the products of our competitors that are available to them, and in response to seasonal fluctuations in end-user demand. Revenue to our distributors generally is recognized based on a sell-through method using information provided by them, and they are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling price, and participate in various cooperative marketing programs. Inventory management remains an area of focus as we balance the need to maintain strategic inventory levels to ensure competitive lead times against the risk of inventory obsolescence because of rapidly changing technology and customer requirements. When facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations. If we ultimately determine that we have excess inventory, we may have to reduce our prices and write down inventory, which in turn could result in lower gross margins.

### **SUPPLY CHAIN ISSUES, INCLUDING FINANCIAL PROBLEMS OF CONTRACT MANUFACTURERS OR COMPONENT SUPPLIERS, OR A SHORTAGE OF ADEQUATE COMPONENT SUPPLY OR MANUFACTURING CAPACITY THAT INCREASED OUR COSTS OR CAUSED A DELAY IN OUR ABILITY TO FULFILL ORDERS, COULD HAVE AN ADVERSE IMPACT ON OUR BUSINESS AND OPERATING RESULTS, AND OUR FAILURE TO ESTIMATE CUSTOMER DEMAND PROPERLY MAY RESULT IN EXCESS OR OBSOLETE COMPONENT SUPPLY, WHICH COULD ADVERSELY AFFECT OUR GROSS MARGINS**

The fact that we do not own or operate the bulk of our manufacturing facilities and that we are reliant on our extended supply chain could have an adverse impact on the supply of our products and on our business and operating results:

- Any financial problems of either contract manufacturers or component suppliers could either limit supply or increase costs
- Reservation of manufacturing capacity at our contract manufacturers by other companies, inside or outside of our industry, could either limit supply or increase costs





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• Industry consolidation occurring within one or more component supplier markets, such as the semiconductor market, could either limit supply or increase costs

A reduction or interruption in supply; a significant increase in the price of one or more components; a failure to adequately authorize procurement of inventory by our contract manufacturers; a failure to appropriately cancel, reschedule, or adjust our requirements based on our business needs; or a decrease in demand for our products could materially adversely affect our business, operating results, and financial condition and could materially damage customer relationships. Furthermore, as a result of binding price or purchase commitments with suppliers, we may be obligated to purchase components at prices that are higher than those available in the current market. In the event that we become committed to purchase components at prices in excess of the current market price when the components are actually used, our gross margins could decrease. We have experienced longer than normal lead times in the past. Although we have generally secured additional supply or taken other mitigation actions when significant disruptions have occurred, if similar situations occur in the future, they could have a material adverse effect on our business, results of operations, and financial condition. See the risk factor above entitled “Our revenue for a particular period is difficult to predict, and a shortfall in revenue may harm our operating results.”

Our growth and ability to meet customer demands depend in part on our ability to obtain timely deliveries of parts from our suppliers and contract manufacturers. We have experienced component shortages in the past, including shortages caused by manufacturing process issues, that have affected our operations. We may in the future experience a shortage of certain component parts as a result of our own manufacturing issues, manufacturing issues at our suppliers or contract manufacturers, capacity problems experienced by our suppliers or contract manufacturers including capacity or cost problems resulting from industry consolidation, or strong demand in the industry for those parts. Growth in the economy is likely to create greater pressures on us and our suppliers to accurately project overall component demand and component demands within specific product categories and to establish optimal component levels and manufacturing capacity, especially for labor-intensive components, components for which we purchase a substantial portion of the supply, or the re-ramping of manufacturing capacity for highly complex products. During periods of shortages or delays the price of components may increase, or the components may not be available at all, and we may also encounter shortages if we do not accurately anticipate our needs. We may not be able to secure enough components at reasonable prices or of acceptable quality to build new products in a timely manner in the quantities or configurations needed. Accordingly, our revenue and gross margins could suffer until other sources can be developed. Our operating results would also be adversely affected if, anticipating greater demand than actually develops, we commit to the purchase of more components than we need, which is more likely to occur in a period of demand uncertainties such as we are currently experiencing. There can be no assurance that we will not encounter these problems in the future. Although in many cases we use standard parts and components for our products, certain components are presently available only from a single source or limited sources, and a global economic downturn and related market uncertainty could negatively impact the availability of components from one or more of these sources, especially during times such as we have recently seen when there are supplier constraints based on labor and other actions taken during economic downturns. We may not be able to diversify sources in a timely manner, which could harm our ability to deliver products to customers and seriously impact present and future sales.

We believe that we may be faced with the following challenges in the future:

- New markets in which we participate may grow quickly, which may make it difficult to quickly obtain significant component capacity
- As we acquire companies and new technologies, we may be dependent, at least initially, on unfamiliar supply chains or relatively small supply partners
- We face competition for certain components that are supply-constrained, from existing competitors, and companies in other markets

Manufacturing capacity and component supply constraints could continue to be significant issues for us. We purchase components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. During the normal course of business, in order to improve manufacturing lead-time performance and to help ensure adequate component supply, we enter into agreements with contract manufacturers and suppliers that

either allow them to procure inventory based upon criteria as defined by us or that establish the parameters defining our requirements. In certain instances, these agreements allow us the option to cancel, reschedule, and adjust our requirements based on our business needs prior to firm orders being placed. When facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations, which in turn contributes to an increase in purchase commitments. Increases in our purchase commitments to shorten lead times could also lead to excess and obsolete inventory charges if the demand for our products is less than our expectations. If we fail to anticipate customer demand properly, an oversupply of parts could result in excess or obsolete components that could

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adversely affect our gross margins. For additional information regarding our purchase commitments with contract manufacturers and suppliers, see Note 12 to the Consolidated Financial Statements.

**WE DEPEND UPON THE DEVELOPMENT OF NEW PRODUCTS AND ENHANCEMENTS TO EXISTING PRODUCTS, AND IF WE FAIL TO PREDICT AND RESPOND TO EMERGING TECHNOLOGICAL TRENDS AND CUSTOMERS' CHANGING NEEDS, OUR OPERATING RESULTS AND MARKET SHARE MAY SUFFER**

The markets for our products are characterized by rapidly changing technology, evolving industry standards, new product introductions, and evolving methods of building and operating networks. Our operating results depend on our ability to develop and introduce new products into existing and emerging markets and to reduce the production costs of existing products. Many of our strategic initiatives and investments we have made, and our architectural approach, are designed to enable the increased use of the network as the platform for automating, orchestrating, integrating, and delivering an ever-increasing array of IT-based products and services. For example, several years ago we launched our Cisco Unified Computing System (UCS), our next-generation enterprise data center platform architected to unite computing, network, storage access and virtualization resources in a single system, which is designed to address the fundamental transformation occurring in the enterprise data center. While our Cisco UCS offering remains a significant focus area for us, several market transitions are also shaping our strategies and investments.

One such market transition we are focusing on is the move towards more programmable, flexible and virtual networks. We believe the successful products and solutions in this market will combine ASICs, hardware and software elements together. Other examples include our focus on security; the market transition related to digital transformation and IoT; and the transition in cloud.

The process of developing new technology, including technology related to more programmable, flexible and virtual networks and technology related to other market transitions— such as security, digital transformation and IoT, and cloud—is complex and uncertain, and if we fail to accurately predict customers' changing needs and emerging technological trends our business could be harmed. We must commit significant resources, including the investments we have been making in our priorities to developing new products before knowing whether our investments will result in products the market will accept. In particular, if our model of the evolution of networking does not emerge as we believe it will, or if the industry does not evolve as we believe it will, or if our strategy for addressing this evolution is not successful, many of our strategic initiatives and investments may be of no or limited value. For example, if we do not introduce products related to network programmability, such as software-defined-networking products, in a timely fashion, or if product offerings in this market that ultimately succeed are based on technology, or an approach to technology, that differs from ours, such as, for example, networking products based on “white box” hardware, our business could be harmed. Similarly, our business could be harmed if we fail to develop, or fail to develop in a timely fashion, offerings to address other transitions, or if the offerings addressing these other transitions that ultimately succeed are based on technology, or an approach to technology, different from ours.

Our strategy is to lead our customers in their digital transition with solutions including pervasive, industry-leading security that intelligently connect nearly everything that can be connected. Over the last few years, we have been transforming our business to move from selling individual products and services to selling products and services integrated into architectures and solutions. As a part of this transformation, we continue to make changes to how we are organized and how we build and deliver our technology. If our strategy for addressing our customer needs, or the architectures and solutions we develop do not meet those needs, or the changes we are making in how we are organized and how we build and deliver or technology is incorrect or ineffective, our business could be harmed. Furthermore, we may not execute successfully on our vision or strategy because of challenges with regard to product planning and timing, technical hurdles that we fail to overcome in a timely fashion, or a lack of appropriate resources. This could result in competitors, some of which may also be our strategic alliance partners, providing those solutions before we do and loss of market share, revenue, and earnings. In addition, the growth in demand for technology delivered as a service enables new competitors to enter the market. The success of new products depends on several factors, including proper new product definition, component costs, timely completion and introduction of these products, differentiation of new products from those of our competitors, and market acceptance of these products. There can be no assurance that we will successfully identify new product opportunities, develop and bring new products to market in a timely manner, or achieve market acceptance of our products or that products and technologies

developed by others will not render our products or technologies obsolete or noncompetitive. The products and technologies in our other product categories and key growth areas may not prove to have the market success we anticipate, and we may not successfully identify and invest in other emerging or new products.

**CHANGES IN INDUSTRY STRUCTURE AND MARKET CONDITIONS COULD LEAD TO CHARGES RELATED TO DISCONTINUANCES OF CERTAIN OF OUR PRODUCTS OR BUSINESSES, ASSET IMPAIRMENTS AND WORKFORCE REDUCTIONS OR RESTRUCTURINGS**

In response to changes in industry and market conditions, we may be required to strategically realign our resources and to consider restructuring, disposing of, or otherwise exiting businesses. Any resource realignment, or decision to limit investment in or dispose of or otherwise exit businesses, may result in the recording of special charges, such as inventory and technology-related write-offs, workforce reduction or restructuring costs, charges relating to consolidation of excess facilities, or claims from third parties

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who were resellers or users of discontinued products. Our estimates with respect to the useful life or ultimate recoverability of our carrying basis of assets, including purchased intangible assets, could change as a result of such assessments and decisions. Although in certain instances our supply agreements allow us the option to cancel, reschedule, and adjust our requirements based on our business needs prior to firm orders being placed, our loss contingencies may include liabilities for contracts that we cannot cancel with contract manufacturers and suppliers. Further, our estimates relating to the liabilities for excess facilities are affected by changes in real estate market conditions. Additionally, we are required to perform goodwill impairment tests on an annual basis and between annual tests in certain circumstances, and future goodwill impairment tests may result in a charge to earnings.

In August 2016, we announced a restructuring plan under which we began taking action in the first quarter of fiscal 2017. The implementation of this restructuring plan may be disruptive to our business, and following completion of the restructuring plan our business may not be more efficient or effective than prior to implementation of the plan. Our restructuring activities, including any related charges and the impact of the related headcount restructurings, could have a material adverse effect on our business, operating results, and financial condition.

**OVER THE LONG TERM WE INTEND TO INVEST IN ENGINEERING, SALES, SERVICE AND MARKETING ACTIVITIES, AND THESE INVESTMENTS MAY ACHIEVE DELAYED, OR LOWER THAN EXPECTED, BENEFITS WHICH COULD HARM OUR OPERATING RESULTS**

While we intend to focus on managing our costs and expenses, over the long term, we also intend to invest in personnel and other resources related to our engineering, sales, service and marketing functions as we realign and dedicate resources on key priority and growth areas, such as security, IoT, collaboration, next generation data center, cloud, and software, and we also intend to focus on maintaining leadership in routing, switching and services. We are likely to recognize the costs associated with these investments earlier than some of the anticipated benefits, and the return on these investments may be lower, or may develop more slowly, than we expect. If we do not achieve the benefits anticipated from these investments, or if the achievement of these benefits is delayed, our operating results may be adversely affected.

**OUR BUSINESS SUBSTANTIALLY DEPENDS UPON THE CONTINUED GROWTH OF THE INTERNET AND INTERNET-BASED SYSTEMS**

A substantial portion of our business and revenue depends on growth and evolution of the Internet, including the continued development of the Internet and the anticipated market transitions, and on the deployment of our products by customers who depend on such continued growth and evolution. To the extent that an economic slowdown or uncertainty and related reduction in capital spending adversely affect spending on Internet infrastructure, including spending or investment related to anticipated market transitions, we could experience material harm to our business, operating results, and financial condition.

Because of the rapid introduction of new products and changing customer requirements related to matters such as cost-effectiveness and security, we believe that there could be performance problems with Internet communications in the future, which could receive a high degree of publicity and visibility. Because we are a large supplier of networking products, our business, operating results, and financial condition may be materially adversely affected, regardless of whether or not these problems are due to the performance of our own products. Such an event could also result in a material adverse effect on the market price of our common stock independent of direct effects on our business.

**WE HAVE MADE AND EXPECT TO CONTINUE TO MAKE ACQUISITIONS THAT COULD DISRUPT OUR OPERATIONS AND HARM OUR OPERATING RESULTS**

Our growth depends upon market growth, our ability to enhance our existing products, and our ability to introduce new products on a timely basis. We intend to continue to address the need to develop new products and enhance existing products through acquisitions of other companies, product lines, technologies, and personnel. Acquisitions involve numerous risks, including the following:

- Difficulties in integrating the operations, systems, technologies, products, and personnel of the acquired companies, particularly companies with large and widespread operations and/or complex products
- Diversion of management's attention from normal daily operations of the business and the challenges of managing larger and more widespread operations resulting from acquisitions
- Potential difficulties in completing projects associated with in-process research and development intangibles

- Difficulties in entering markets in which we have no or limited direct prior experience and where competitors in such markets have stronger market positions
- Initial dependence on unfamiliar supply chains or relatively small supply partners

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- Insufficient revenue to offset increased expenses associated with acquisitions
- The potential loss of key employees, customers, distributors, vendors and other business partners of the companies we acquire following and continuing after announcement of acquisition plans

Acquisitions may also cause us to:

- Issue common stock that would dilute our current shareholders' percentage ownership
- Use a substantial portion of our cash resources, or incur debt
- Significantly increase our interest expense, leverage and debt service requirements if we incur additional debt to pay for an acquisition
- Assume liabilities
- Record goodwill and intangible assets that are subject to impairment testing on a regular basis and potential periodic impairment charges
- Incur amortization expenses related to certain intangible assets
- Incur tax expenses related to the effect of acquisitions on our intercompany R&D cost sharing arrangement and legal structure
- Incur large and immediate write-offs and restructuring and other related expenses
- Become subject to intellectual property or other litigation

Mergers and acquisitions of high-technology companies are inherently risky and subject to many factors outside of our control, and no assurance can be given that our previous or future acquisitions will be successful and will not materially adversely affect our business, operating results, or financial condition. Failure to manage and successfully integrate acquisitions could materially harm our business and operating results. Prior acquisitions have resulted in a wide range of outcomes, from successful introduction of new products and technologies to a failure to do so. Even when an acquired company has already developed and marketed products, there can be no assurance that product enhancements will be made in a timely fashion or that pre-acquisition due diligence will have identified all possible issues that might arise with respect to such products.

From time to time, we have made acquisitions that resulted in charges in an individual quarter. These charges may occur in any particular quarter, resulting in variability in our quarterly earnings. In addition, our effective tax rate for future periods is uncertain and could be impacted by mergers and acquisitions. Risks related to new product development also apply to acquisitions. See the risk factors above, including the risk factor entitled "We depend upon the development of new products and enhancements to existing products, and if we fail to predict and respond to emerging technological trends and customers' changing needs, our operating results and market share may suffer" for additional information.

### **ENTRANCE INTO NEW OR DEVELOPING MARKETS EXPOSES US TO ADDITIONAL COMPETITION AND WILL LIKELY INCREASE DEMANDS ON OUR SERVICE AND SUPPORT OPERATIONS**

As we focus on new market opportunities and key priority and growth areas, we will increasingly compete with large telecommunications equipment suppliers as well as startup companies. Several of our competitors may have greater resources, including technical and engineering resources, than we do. Additionally, as customers in these markets complete infrastructure deployments, they may require greater levels of service, support, and financing than we have provided in the past, especially in emerging countries. Demand for these types of service, support, or financing contracts may increase in the future. There can be no assurance that we can provide products, service, support, and financing to effectively compete for these market opportunities.

Further, provision of greater levels of services, support and financing by us may result in a delay in the timing of revenue recognition. In addition, entry into other markets has subjected and will subject us to additional risks, particularly to those markets, including the effects of general market conditions and reduced consumer confidence. For example, as we add direct selling capabilities globally to meet changing customer demands, we will face increased legal and regulatory requirements.



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**INDUSTRY CONSOLIDATION MAY LEAD TO INCREASED COMPETITION AND MAY HARM OUR OPERATING RESULTS**

There has been a trend toward industry consolidation in our markets for several years. We expect this trend to continue as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. For example, some of our current and potential competitors for enterprise data center business have made acquisitions, or announced new strategic alliances, designed to position them with the ability to provide end-to-end technology solutions for the enterprise data center. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could lead to more variability in our operating results and could have a material adverse effect on our business, operating results, and financial condition.

Furthermore, particularly in the service provider market, rapid consolidation will lead to fewer customers, with the effect that loss of a major customer could have a material impact on results not anticipated in a customer marketplace composed of more numerous participants.

**PRODUCT QUALITY PROBLEMS COULD LEAD TO REDUCED REVENUE, GROSS MARGINS, AND NET INCOME**

We produce highly complex products that incorporate leading-edge technology, including both hardware and software. Software typically contains bugs that can unexpectedly interfere with expected operations. There can be no assurance that our pre-shipment testing programs will be adequate to detect all defects, either ones in individual products or ones that could affect numerous shipments, which might interfere with customer satisfaction, reduce sales opportunities, or affect gross margins. From time to time, we have had to replace certain components and provide remediation in response to the discovery of defects or bugs in products that we had shipped. There can be no assurance that such remediation, depending on the product involved, would not have a material impact. An inability to cure a product defect could result in the failure of a product line, temporary or permanent withdrawal from a product or market, damage to our reputation, inventory costs, or product reengineering expenses, any of which could have a material impact on our revenue, margins, and net income. For example, in the second quarter of fiscal 2014, we recorded a pre-tax charge of \$655 million related to the expected remediation costs for certain products sold in prior fiscal years containing memory components manufactured by a single supplier between 2005 and 2010.

**DUE TO THE GLOBAL NATURE OF OUR OPERATIONS, POLITICAL OR ECONOMIC CHANGES OR OTHER FACTORS IN A SPECIFIC COUNTRY OR REGION COULD HARM OUR OPERATING RESULTS AND FINANCIAL CONDITION**

We conduct significant sales and customer support operations in countries around the world. As such, our growth depends in part on our increasing sales into emerging countries. We also depend on non-U.S. operations of our contract manufacturers, component suppliers and distribution partners. Emerging countries in the aggregate experienced a decline in orders during the fourth quarter of fiscal 2016, and also in fiscal 2014 and fiscal 2015. We continue to assess the sustainability of any improvements in these countries and there can be no assurance that our investments in these countries will be successful. Our future results could be materially adversely affected by a variety of political, economic or other factors relating to our operations inside and outside the United States, including impacts from global central bank monetary policy; issues related to the political relationship between the United States and other countries that can affect the willingness of customers in those countries to purchase products from companies headquartered in the United States; and the challenging and inconsistent global macroeconomic environment, any or all of which could have a material adverse effect on our operating results and financial condition, including, among others, the following:

- Foreign currency exchange rates
- Political or social unrest

Economic instability or weakness or natural disasters in a specific country or region, including the current economic challenges in China and global economic ramifications of Chinese economic difficulties; instability as a result of Brexit; environmental and trade protection measures and other legal and regulatory requirements, some of which may affect our ability to import our products, to export our products from, or sell our products in various countries

- Political considerations that affect service provider and government spending patterns
- Health or similar issues, such as a pandemic or epidemic
- Difficulties in staffing and managing international operations
- Adverse tax consequences, including imposition of withholding or other taxes on our global operations

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**WE ARE EXPOSED TO THE CREDIT RISK OF SOME OF OUR CUSTOMERS AND TO CREDIT EXPOSURES IN WEAKENED MARKETS, WHICH COULD RESULT IN MATERIAL LOSSES**

Most of our sales are on an open credit basis, with typical payment terms of 30 days in the United States and, because of local customs or conditions, longer in some markets outside the United States. We monitor individual customer payment capability in granting such open credit arrangements, seek to limit such open credit to amounts we believe the customers can pay, and maintain reserves we believe are adequate to cover exposure for doubtful accounts.

Beyond our open credit arrangements, we have also experienced demands for customer financing and facilitation of leasing arrangements. We expect demand for customer financing to continue, and recently we have been experiencing an increase in this demand as the credit markets have been impacted by the challenging and inconsistent global macroeconomic environment, including increased demand from customers in certain emerging countries.

We believe customer financing is a competitive factor in obtaining business, particularly in serving customers involved in significant infrastructure projects. Our loan financing arrangements may include not only financing the acquisition of our products and services but also providing additional funds for other costs associated with network installation and integration of our products and services.

Our exposure to the credit risks relating to our financing activities described above may increase if our customers are adversely affected by a global economic downturn or periods of economic uncertainty. Although we have programs in place that are designed to monitor and mitigate the associated risk, including monitoring of particular risks in certain geographic areas, there can be no assurance that such programs will be effective in reducing our credit risks.

In the past, there have been significant bankruptcies among customers both on open credit and with loan or lease financing arrangements, particularly among Internet businesses and service providers, causing us to incur economic or financial losses. There can be no assurance that additional losses will not be incurred. Although these losses have not been material to date, future losses, if incurred, could harm our business and have a material adverse effect on our operating results and financial condition. A portion of our sales is derived through our distributors. These distributors are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling prices, and participate in various cooperative marketing programs. We maintain estimated accruals and allowances for such business terms. However, distributors tend to have more limited financial resources than other resellers and end-user customers and therefore represent potential sources of increased credit risk, because they may be more likely to lack the reserve resources to meet payment obligations. Additionally, to the degree that turmoil in the credit markets makes it more difficult for some customers to obtain financing, those customers' ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business, operating results, and financial condition.

**WE ARE EXPOSED TO FLUCTUATIONS IN THE MARKET VALUES OF OUR PORTFOLIO INVESTMENTS AND IN INTEREST RATES; IMPAIRMENT OF OUR INVESTMENTS COULD HARM OUR EARNINGS**

We maintain an investment portfolio of various holdings, types, and maturities. These securities are generally classified as available-for-sale and, consequently, are recorded on our Consolidated Balance Sheets at fair value with unrealized gains or losses reported as a component of accumulated other comprehensive income (loss), net of tax. Our portfolio includes fixed income securities and equity investments in publicly traded companies, the values of which are subject to market price volatility to the extent unhedged. If such investments suffer market price declines, as we experienced with some of our investments in the past, we may recognize in earnings the decline in the fair value of our investments below their cost basis when the decline is judged to be other than temporary. For information regarding the sensitivity of and risks associated with the market value of portfolio investments and interest rates, refer to the section titled "Quantitative and Qualitative Disclosures About Market Risk." Our investments in private companies are subject to risk of loss of investment capital. These investments are inherently risky because the markets for the technologies or products they have under development are typically in the early stages and may never materialize. We could lose our entire investment in these companies.

**WE ARE EXPOSED TO FLUCTUATIONS IN CURRENCY EXCHANGE RATES THAT COULD NEGATIVELY IMPACT OUR FINANCIAL RESULTS AND CASH FLOWS**

Because a significant portion of our business is conducted outside the United States, we face exposure to adverse movements in foreign currency exchange rates. These exposures may change over time as business practices evolve,

and they could have a material adverse impact on our financial results and cash flows. Historically, our primary exposures have related to nondollar-denominated sales in Japan, Canada, and Australia and certain nondollar-denominated operating expenses and service cost of sales in Europe, Latin America, and Asia, where we sell primarily in U.S. dollars. Additionally, we have exposures to emerging market currencies, which can have extreme currency volatility. An increase in the value of the dollar could increase the real cost to our customers of our products in those markets outside the United States where we sell in dollars and a weakened dollar could increase the cost of local operating expenses and procurement of raw materials to the extent that we must purchase components in foreign currencies.

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Currently, we enter into foreign exchange forward contracts and options to reduce the short-term impact of foreign currency fluctuations on certain foreign currency receivables, investments, and payables. In addition, we periodically hedge anticipated foreign currency cash flows. Our attempts to hedge against these risks may result in an adverse impact on our net income.

### **OUR PROPRIETARY RIGHTS MAY PROVE DIFFICULT TO ENFORCE**

We generally rely on patents, copyrights, trademarks, and trade secret laws to establish and maintain proprietary rights in our technology and products. Although we have been issued numerous patents and other patent applications are currently pending, there can be no assurance that any of these patents or other proprietary rights will not be challenged, invalidated, or circumvented or that our rights will, in fact, provide competitive advantages to us. Furthermore, many key aspects of networking technology are governed by industrywide standards, which are usable by all market entrants. In addition, there can be no assurance that patents will be issued from pending applications or that claims allowed on any patents will be sufficiently broad to protect our technology. In addition, the laws of some foreign countries may not protect our proprietary rights to the same extent as do the laws of the United States. The outcome of any actions taken in these foreign countries may be different than if such actions were determined under the laws of the United States. Although we are not dependent on any individual patents or group of patents for particular segments of the business for which we compete, if we are unable to protect our proprietary rights to the totality of the features (including aspects of products protected other than by patent rights) in a market, we may find ourselves at a competitive disadvantage to others who need not incur the substantial expense, time, and effort required to create innovative products that have enabled us to be successful.

### **WE MAY BE FOUND TO INFRINGE ON INTELLECTUAL PROPERTY RIGHTS OF OTHERS**

Third parties, including customers, have in the past and may in the future assert claims or initiate litigation related to exclusive patent, copyright, trademark, and other intellectual property rights to technologies and related standards that are relevant to us. These assertions have increased over time as a result of our growth and the general increase in the pace of patent claims assertions, particularly in the United States. Because of the existence of a large number of patents in the networking field, the secrecy of some pending patents, and the rapid rate of issuance of new patents, it is not economically practical or even possible to determine in advance whether a product or any of its components infringes or will infringe on the patent rights of others. The asserted claims and/or initiated litigation can include claims against us or our manufacturers, suppliers, or customers, alleging infringement of their proprietary rights with respect to our existing or future products or components of those products. Regardless of the merit of these claims, they can be time-consuming, result in costly litigation and diversion of technical and management personnel, or require us to develop a non-infringing technology or enter into license agreements. Where claims are made by customers, resistance even to unmeritorious claims could damage customer relationships. There can be no assurance that licenses will be available on acceptable terms and conditions, if at all, or that our indemnification by our suppliers will be adequate to cover our costs if a claim were brought directly against us or our customers. Furthermore, because of the potential for high court awards that are not necessarily predictable, it is not unusual to find even arguably unmeritorious claims settled for significant amounts. If any infringement or other intellectual property claim made against us by any third party is successful, if we are required to indemnify a customer with respect to a claim against the customer, or if we fail to develop non-infringing technology or license the proprietary rights on commercially reasonable terms and conditions, our business, operating results, and financial condition could be materially and adversely affected. For additional information regarding our indemnification obligations, see Note 12(g) to the Consolidated Financial Statements contained in this report.

Our exposure to risks associated with the use of intellectual property may be increased as a result of acquisitions, as we have a lower level of visibility into the development process with respect to such technology or the care taken to safeguard against infringement risks. Further, in the past, third parties have made infringement and similar claims after we have acquired technology that had not been asserted prior to our acquisition.

### **WE RELY ON THE AVAILABILITY OF THIRD-PARTY LICENSES**

Many of our products are designed to include software or other intellectual property licensed from third parties. It may be necessary in the future to seek or renew licenses relating to various aspects of these products. There can be no assurance that the necessary licenses would be available on acceptable terms, if at all. The inability to obtain certain

licenses or other rights or to obtain such licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could have a material adverse effect on our business, operating results, and financial condition. Moreover, the inclusion in our products of software or other intellectual property licensed from third parties on a nonexclusive basis could limit our ability to protect our proprietary rights in our products.

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**OUR OPERATING RESULTS MAY BE ADVERSELY AFFECTED AND DAMAGE TO OUR REPUTATION MAY OCCUR DUE TO PRODUCTION AND SALE OF COUNTERFEIT VERSIONS OF OUR PRODUCTS**

As is the case with leading products around the world, our products are subject to efforts by third parties to produce counterfeit versions of our products. While we work diligently with law enforcement authorities in various countries to block the manufacture of counterfeit goods and to interdict their sale, and to detect counterfeit products in customer networks, and have succeeded in prosecuting counterfeiters and their distributors, resulting in fines, imprisonment and restitution to us, there can be no guarantee that such efforts will succeed. While counterfeiters often aim their sales at customers who might not have otherwise purchased our products due to lack of verifiability of origin and service, such counterfeit sales, to the extent they replace otherwise legitimate sales, could adversely affect our operating results.

**OUR OPERATING RESULTS AND FUTURE PROSPECTS COULD BE MATERIALLY HARMED BY UNCERTAINTIES OF REGULATION OF THE INTERNET**

Currently, few laws or regulations apply directly to access or commerce on the Internet. We could be materially adversely affected by regulation of the Internet and Internet commerce in any country where we operate. Such regulations could include matters such as voice over the Internet or using IP, encryption technology, sales or other taxes on Internet product or service sales, and access charges for Internet service providers. The adoption of regulation of the Internet and Internet commerce could decrease demand for our products and, at the same time, increase the cost of selling our products, which could have a material adverse effect on our business, operating results, and financial condition.

**CHANGES IN TELECOMMUNICATIONS REGULATION AND TARIFFS COULD HARM OUR PROSPECTS AND FUTURE SALES**

Changes in telecommunications requirements, or regulatory requirements in other industries in which we operate, in the United States or other countries could affect the sales of our products. In particular, we believe that there may be future changes in U.S. telecommunications regulations that could slow the expansion of the service providers' network infrastructures and materially adversely affect our business, operating results, and financial condition, including "net neutrality" rules to the extent they impact decisions on investment in network infrastructure.

Future changes in tariffs by regulatory agencies or application of tariff requirements to currently untariffed services could affect the sales of our products for certain classes of customers. Additionally, in the United States, our products must comply with various requirements and regulations of the Federal Communications Commission and other regulatory authorities. In countries outside of the United States, our products must meet various requirements of local telecommunications and other industry authorities. Changes in tariffs or failure by us to obtain timely approval of products could have a material adverse effect on our business, operating results, and financial condition.

**FAILURE TO RETAIN AND RECRUIT KEY PERSONNEL WOULD HARM OUR ABILITY TO MEET KEY OBJECTIVES**

Our success has always depended in large part on our ability to attract and retain highly skilled technical, managerial, sales, and marketing personnel. Competition for these personnel is intense, especially in the Silicon Valley area of Northern California. Stock incentive plans are designed to reward employees for their long-term contributions and provide incentives for them to remain with us. Volatility or lack of positive performance in our stock price or equity incentive awards, or changes to our overall compensation program, including our stock incentive program, resulting from the management of share dilution and share-based compensation expense or otherwise, may also adversely affect our ability to retain key employees. As a result of one or more of these factors, we may increase our hiring in geographic areas outside the United States, which could subject us to additional geopolitical and exchange rate risk. The loss of services of any of our key personnel; the inability to retain and attract qualified personnel in the future; or delays in hiring required personnel, particularly engineering and sales personnel, could make it difficult to meet key objectives, such as timely and effective product introductions. In addition, companies in our industry whose employees accept positions with competitors frequently claim that competitors have engaged in improper hiring practices. We have received these claims in the past and may receive additional claims to this effect in the future.

**ADVERSE RESOLUTION OF LITIGATION OR GOVERNMENTAL INVESTIGATIONS MAY HARM OUR OPERATING RESULTS OR FINANCIAL CONDITION**

We are a party to lawsuits in the normal course of our business. Litigation can be expensive, lengthy, and disruptive to normal business operations. Moreover, the results of complex legal proceedings are difficult to predict. For example, Brazilian authorities have investigated our Brazilian subsidiary and certain of its current and former employees, as well as a Brazilian importer of our products, and its affiliates and employees, relating to alleged evasion of import taxes and alleged improper transactions involving the subsidiary and the importer. Brazilian tax authorities have assessed claims against our Brazilian subsidiary based on a theory of joint liability with the Brazilian importer for import taxes, interest, and penalties. In the first quarter of fiscal 2013, the Brazilian federal tax authorities asserted an additional claim against our Brazilian subsidiary based on a theory of joint liability with respect



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to an alleged underpayment of income taxes, social taxes, interest, and penalties by a Brazilian distributor. This claim was dismissed on its merits during the third quarter of fiscal 2016. The asserted claims by Brazilian federal tax authorities which remain are for calendar years 2003 through 2007, and the asserted claims by the tax authorities from the state of Sao Paulo are for calendar years 2005 through 2007. The total asserted claims by Brazilian state and federal tax authorities aggregate to \$249 million for the alleged evasion of import and other taxes, \$1.3 billion for interest, and \$1.2 billion for various penalties, all determined using an exchange rate as of July 30, 2016. We have completed a thorough review of the matters and believe the asserted claims against our Brazilian subsidiary are without merit, and we are defending the claims vigorously. While we believe there is no legal basis for the alleged liability, due to the complexities and uncertainty surrounding the judicial process in Brazil and the nature of the claims asserting joint liability with the importer, we are unable to determine the likelihood of an unfavorable outcome against our Brazilian subsidiary and are unable to reasonably estimate a range of loss, if any. We do not expect a final judicial determination for several years. An unfavorable resolution of lawsuits or governmental investigations could have a material adverse effect on our business, operating results, or financial condition. For additional information regarding certain of the matters in which we are involved, see Item 3, "Legal Proceedings," contained in Part I of this report.

#### **CHANGES IN OUR PROVISION FOR INCOME TAXES OR ADVERSE OUTCOMES RESULTING FROM EXAMINATION OF OUR INCOME TAX RETURNS COULD ADVERSELY AFFECT OUR RESULTS**

Our provision for income taxes is subject to volatility and could be adversely affected by earnings being lower than anticipated in countries that have lower tax rates and higher than anticipated in countries that have higher tax rates; by changes in the valuation of our deferred tax assets and liabilities; by changes to domestic manufacturing deduction laws, regulations, or interpretations thereof; by expiration of or lapses in tax incentives; by transfer pricing adjustments, including the effect of acquisitions on our intercompany R&D cost sharing arrangement and legal structure; by tax effects of nondeductible compensation; by tax costs related to intercompany realignments; by changes in accounting principles; or by changes in tax laws and regulations, treaties, or interpretations thereof, including possible changes to the taxation of earnings of our foreign subsidiaries, the deductibility of expenses attributable to foreign income, or the foreign tax credit rules. Significant judgment is required to determine the recognition and measurement attribute prescribed in the accounting guidance for uncertainty in income taxes. The Organisation for Economic Co-operation and Development (OECD), an international association comprised of 34 countries, including the United States, has recently made changes to numerous long-standing tax principles. There can be no assurance that these changes, once adopted by countries, will not have an adverse impact on our provision for income taxes. Further, as a result of certain of our ongoing employment and capital investment actions and commitments, our income in certain countries is subject to reduced tax rates. Our failure to meet these commitments could adversely impact our provision for income taxes. In addition, we are subject to the continuous examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuous examinations will not have an adverse effect on our operating results and financial condition.

#### **OUR BUSINESS AND OPERATIONS ARE ESPECIALLY SUBJECT TO THE RISKS OF EARTHQUAKES, FLOODS, AND OTHER NATURAL CATASTROPHIC EVENTS**

Our corporate headquarters, including certain of our research and development operations are located in the Silicon Valley area of Northern California, a region known for seismic activity. Additionally, a certain number of our facilities are located near rivers that have experienced flooding in the past. Also certain of our suppliers and logistics centers are located in regions that have been or may be affected by earthquake, tsunami and flooding activity which in the past has disrupted, and in the future could disrupt, the flow of components and delivery of products. A significant natural disaster, such as an earthquake, a hurricane, volcano, or a flood, could have a material adverse impact on our business, operating results, and financial condition.

#### **MAN-MADE PROBLEMS SUCH AS CYBER-ATTACKS, DATA PROTECTION BREACHES, COMPUTER VIRUSES OR TERRORISM MAY DISRUPT OUR OPERATIONS, HARM OUR OPERATING RESULTS AND DAMAGE OUR REPUTATION, AND CYBER-ATTACKS OR DATA PROTECTION BREACHES ON OUR CUSTOMERS' NETWORKS, OR IN CLOUD-BASED SERVICES PROVIDED BY OR ENABLED BY US,**

**COULD RESULT IN LIABILITY FOR US, DAMAGE OUR REPUTATION OR OTHERWISE HARM OUR BUSINESS**

Despite our implementation of network security measures, the products and services we sell to customers, and our servers, data centers and the cloud-based solutions on which our data, and data of our customers, suppliers and business partners are stored, are vulnerable to cyber-attacks, data protection breaches, computer viruses, and similar disruptions from unauthorized tampering or human error. Any such event could compromise our networks or those of our customers, and the information stored on our networks or those of our customers could be accessed, publicly disclosed, lost or stolen, which could subject us to liability to our customers, suppliers, business partners and others, and could have a material adverse effect on our business, operating results, and financial condition and may cause damage to our reputation. Efforts to limit the ability of malicious third parties to disrupt the operations of the Internet or undermine our own security efforts may be costly to implement and meet with resistance, and may not be successful. Breaches of network security in our customers' networks, or in cloud-based services provided by or enabled by us,

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regardless of whether the breach is attributable to a vulnerability in our products or services, could result in liability for us, damage our reputation or otherwise harm our business.

In addition, the continued threat of terrorism and heightened security and military action in response to this threat, or any future acts of terrorism, may cause further disruptions to the economies of the United States and other countries and create further uncertainties or otherwise materially harm our business, operating results, and financial condition. Likewise, events such as loss of infrastructure and utilities services such as energy, transportation, or telecommunications could have similar negative impacts. To the extent that such disruptions or uncertainties result in delays or cancellations of customer orders or the manufacture or shipment of our products, our business, operating results, and financial condition could be materially and adversely affected.

**IF WE DO NOT SUCCESSFULLY MANAGE OUR STRATEGIC ALLIANCES, WE MAY NOT REALIZE THE EXPECTED BENEFITS FROM SUCH ALLIANCES AND WE MAY EXPERIENCE INCREASED COMPETITION OR DELAYS IN PRODUCT DEVELOPMENT**

We have several strategic alliances with large and complex organizations and other companies with which we work to offer complementary products and services and have established a joint venture to market services associated with our Cisco Unified Computing System products. These arrangements are generally limited to specific projects, the goal of which is generally to facilitate product compatibility and adoption of industry standards. There can be no assurance we will realize the expected benefits from these strategic alliances or from the joint venture. If successful, these relationships may be mutually beneficial and result in industry growth. However, alliances carry an element of risk because, in most cases, we must compete in some business areas with a company with which we have a strategic alliance and, at the same time, cooperate with that company in other business areas. Also, if these companies fail to perform or if these relationships fail to materialize as expected, we could suffer delays in product development or other operational difficulties. Joint ventures can be difficult to manage, given the potentially different interests of joint venture partners.

**OUR STOCK PRICE MAY BE VOLATILE**

Historically, our common stock has experienced substantial price volatility, particularly as a result of variations between our actual financial results and the published expectations of analysts and as a result of announcements by our competitors and us. Furthermore, speculation in the press or investment community about our strategic position, financial condition, results of operations, business, security of our products, or significant transactions can cause changes in our stock price. In addition, the stock market has experienced extreme price and volume fluctuations that have affected the market price of many technology companies, in particular, and that have often been unrelated to the operating performance of these companies. These factors, as well as general economic and political conditions and the announcement of proposed and completed acquisitions or other significant transactions, or any difficulties associated with such transactions, by us or our current or potential competitors, may materially adversely affect the market price of our common stock in the future. Additionally, volatility, lack of positive performance in our stock price or changes to our overall compensation program, including our stock incentive program, may adversely affect our ability to retain key employees, virtually all of whom are compensated, in part, based on the performance of our stock price.

**THERE CAN BE NO ASSURANCE THAT OUR OPERATING RESULTS AND FINANCIAL CONDITION WILL NOT BE ADVERSELY AFFECTED BY OUR INCURRENCE OF DEBT**

As of the end of fiscal 2016, we have senior unsecured notes outstanding in an aggregate principal amount of \$28.4 billion that mature at specific dates from calendar year 2017 through 2040. We have also established a commercial paper program under which we may issue short-term, unsecured commercial paper notes on a private placement basis up to a maximum aggregate amount outstanding at any time of \$3.0 billion, and we had no commercial paper notes outstanding under this program as of July 30, 2016. The outstanding senior unsecured notes bear fixed-rate interest payable semiannually, except \$3.4 billion of the notes which bears interest at a floating rate payable quarterly. The fair value of the long-term debt is subject to market interest rate volatility. The instruments governing the senior unsecured notes contain certain covenants applicable to us and our wholly-owned subsidiaries that may adversely affect our ability to incur certain liens or engage in certain types of sale and leaseback transactions. In addition, we will be required to have available in the United States sufficient cash to service the interest on our debt and repay all of our notes on maturity. There can be no assurance that our incurrence of this debt or any future debt will be a better means

of providing liquidity to us than would our use of our existing cash resources, including cash currently held offshore. Further, we cannot be assured that our maintenance of this indebtedness or incurrence of future indebtedness will not adversely affect our operating results or financial condition. In addition, changes by any rating agency to our credit rating can negatively impact the value and liquidity of both our debt and equity securities, as well as the terms upon which we may borrow under our commercial paper program or future debt issuances.

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Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Our corporate headquarters are located at an owned site in San Jose, California, in the United States of America. The locations of our headquarters by geographic segment are as follows:

Americas	EMEA	APJC
San Jose, California, USA	Amsterdam, Netherlands	Singapore

In addition to our headquarters site, we own additional sites in the United States, which include facilities in the surrounding areas of San Jose, California; Research Triangle Park, North Carolina; Richardson, Texas; Lawrenceville, Georgia; and Boston, Massachusetts. We also own land for expansion in some of these locations. In addition, we lease office space in many U.S. locations.

Outside the United States our operations are conducted primarily in leased sites, such as our Globalisation Centre East campus in Bangalore, India. Other significant sites (in addition to the two non-U.S. headquarters locations) are located in Belgium, Canada, China, Germany, India, Israel, Japan, Netherlands, Poland, and the United Kingdom.

We believe that our existing facilities, including both owned and leased, are in good condition and suitable for the conduct of our business. For additional information regarding obligations under operating leases, see Note 12 to the Consolidated Financial Statements.

Item 3. Legal Proceedings

**Brazil** Brazilian authorities have investigated our Brazilian subsidiary and certain of its current and former employees, as well as a Brazilian importer of our products, and its affiliates and employees, relating to alleged evasion of import taxes and alleged improper transactions involving the subsidiary and the importer. Brazilian tax authorities have assessed claims against our Brazilian subsidiary based on a theory of joint liability with the Brazilian importer for import taxes, interest, and penalties. In addition to claims asserted by the Brazilian federal tax authorities in prior fiscal years, tax authorities from the Brazilian state of Sao Paulo have asserted similar claims on the same legal basis in prior fiscal years. In the first quarter of fiscal 2013, the Brazilian federal tax authorities asserted an additional claim against our Brazilian subsidiary based on a theory of joint liability with respect to an alleged underpayment of income taxes, social taxes, interest, and penalties by a Brazilian distributor. This claim was dismissed on its merits during the third quarter of fiscal 2016.

The asserted claims by Brazilian federal tax authorities which remain are for calendar years 2003 through 2007, and the asserted claims by the tax authorities from the state of Sao Paulo are for calendar years 2005 through 2007. The total asserted claims by Brazilian state and federal tax authorities aggregate to \$249 million for the alleged evasion of import and other taxes, \$1.3 billion for interest, and \$1.2 billion for various penalties, all determined using an exchange rate as of July 30, 2016. We have completed a thorough review of the matters and believe the asserted claims against our Brazilian subsidiary are without merit, and we are defending the claims vigorously. While we believe there is no legal basis for the alleged liability, due to the complexities and uncertainty surrounding the judicial process in Brazil and the nature of the claims asserting joint liability with the importer, we are unable to determine the likelihood of an unfavorable outcome against our Brazilian subsidiary and are unable to reasonably estimate a range of loss, if any. We do not expect a final judicial determination for several years.

**Russia and the Commonwealth of Independent States** At the request of the U.S. Securities and Exchange Commission (“SEC”) and the U.S. Department of Justice, we have conducted an investigation into allegations which we and those agencies received regarding possible violations of the U.S. Foreign Corrupt Practices Act involving business activities of our operations in Russia and certain of the Commonwealth of Independent States, and by certain resellers of our products in those countries. We take any such allegations very seriously and we have fully cooperated with and shared the results of our investigation with the SEC and the Department of Justice. Based on the investigation results, both the SEC and the Department of Justice have recently informed us that they have decided not to bring enforcement actions.

**Backflip Software** Backflip Software, Inc. (“Backflip”) asserted contract, tort, and fraud claims against us in Santa Clara County, California Superior Court. The proceeding was instituted on March 5, 2013. Backflip alleges that we

conspired with Backflip's then-CEO to allow us to access and use a copy of Backflip's source code via a pre-existing escrow agreement, and that, subsequently, we used that source code in violation of trade secret law and the parties' software license agreement. Five claims brought by Backflip were dismissed by the Court in an order dated August 1, 2016; the claims remaining in the case are for breach of contract and misappropriation of trade secrets. Backflip will seek compensatory and enhanced damages during a trial currently set for September 12, 2016. We believe that we have strong arguments that we were entitled to access and use a copy of the source code

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under the parties' software license agreement and did not violate trade secret law. In addition, if the jury were to find for Backflip on some or all of its claims, we believe that damages would not be material given our assessment of the value of the Backflip intellectual property that we are alleged to have misappropriated. However, due to the uncertainty surrounding the litigation process, we are unable to reasonably estimate the ultimate outcome of this litigation at this time.

**SRI International** On September 4, 2013, SRI International, Inc. ("SRI") asserted patent infringement claims against us in the U.S. District Court for the District of Delaware, accusing our products and services in the area of network intrusion detection of infringing two U.S. patents. SRI sought monetary damages of at least a reasonable royalty and enhanced damages. The trial on these claims began on May 2, 2016 and on May 12, 2016, the jury returned a verdict finding willful infringement of the asserted patents. The jury awarded SRI damages of \$23.7 million and the Court will decide whether to award enhanced damages and attorneys' fees and whether an ongoing royalty should be awarded through the expiration of the patents in 2018. In June 2016, we filed post-trial motions. We also intend to pursue an appeal to the United States Court of Appeals for the Federal Circuit on various grounds. We believe we have strong arguments to overturn the jury verdict and/or reduce the damages award. While the ultimate outcome of the case may still result in a loss, we do not expect it to be material.

**SSL** SSL Services, LLC ("SSL") has asserted claims for patent infringement against us in the U.S. District Court for the Eastern District of Texas. The proceeding was instituted on March 25, 2015. SSL alleges that our AnyConnect products that include Virtual Private Networking functions infringed a U.S. patent owned by SSL. SSL seeks money damages from us. On August 18, 2015, Cisco petitioned the Patent Trial and Appeal Board ("PTAB") of the United States Patent and Trademark Office to review whether the patent SSL has asserted against us is valid over prior art. On February 23, 2016, a PTAB multi-judge panel found a reasonable likelihood that Cisco would prevail in showing that SSL's patent claims are unpatentable and instituted proceedings. The PTAB scheduled a hearing to review our petition for November 16, 2016. Although a trial of SSL's claim in district court in Texas was set for September 6, 2016, the district court issued an order on June 28, 2016 staying the district court case pending the final written decision from the PTAB. We believe we have strong arguments that our products do not infringe and the patent is invalid. If we did not prevail and a jury were to find that our AnyConnect products infringe, we believe damages, as appropriately measured, would be immaterial. Due to uncertainty surrounding patent litigation processes, however, we are unable to reasonably estimate the ultimate outcome of this litigation at this time.

**Kangtega** Cisco Systems GmbH ("Cisco GmbH") is subject to patent claims by Kangtega GmbH ("Kangtega"), instituted on June 6, 2013, alleging that Cisco GmbH infringes in Germany a European Patent by marketing in Germany network intrusion-detection (or firewall) products known as the "ASA" firewall offering. On April 29, 2014, the Mannheim Regional Court dismissed the infringement action finding no infringement by Cisco GmbH of the asserted patent. On November 23, 2016, a court of appeal in Germany (Oberlandesgericht Karlsruhe) will hear an appeal of that judgment. The matter had been set for July 13, 2016, but that hearing was postponed until November 23, 2016. In addition, on July 25, 2016, the German Federal Patent Court issued its grounds for a decision denying Cisco's nullity request with respect to the Kangtega patent. The nullity decision, which is open to appeal, regards patent validity and was issued in a separate proceeding from the infringement action in which Cisco has previously prevailed. In the infringement action, Kangtega seeks an injunction which would prohibit Cisco GmbH's activities in Germany with respect to the ASA firewall offering unless Cisco GmbH takes a license from Kangtega or Cisco redesigns the products. We believe the lower court ruling in Cisco's favor in the infringement action was correct and should be affirmed. We do not anticipate that the outcome of the case would be material. However, due to uncertainty surrounding the litigation process, we are unable to reasonably estimate the outcome of the appeal and any subsequent appeals to a higher court at this time.

In addition, we are subject to legal proceedings, claims, and litigation arising in the ordinary course of business, including intellectual property litigation. While the outcome of these matters is currently not determinable, we do not expect that the ultimate costs to resolve these matters will have a material adverse effect on our consolidated financial position, results of operations, or cash flows. For additional information regarding intellectual property litigation, see "Part II, Item 1A. Risk Factors-We may be found to infringe on intellectual property rights of others" herein.

Item 4. Mine Safety Disclosures  
Not applicable.

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## PART II

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

Cisco common stock is traded on the NASDAQ Global Select Market under the symbol CSCO. Information regarding quarterly cash dividends declared on Cisco's common stock during fiscal 2016 and 2015 may be found in (a) Supplementary Financial Data on page 119 of this report. There were 43,798 registered shareholders as of September 2, 2016. The high and low common stock sales prices per share for each period were as follows:

	FISCAL 2016		FISCAL 2015	
Fiscal Quarter	High	Low	High	Low
First quarter	\$29.38	\$23.03	\$26.01	\$22.49
Second quarter	\$29.49	\$22.47	\$28.70	\$23.60
Third quarter	\$28.70	\$22.46	\$30.31	\$25.92
Fourth quarter	\$31.15	\$25.81	\$29.90	\$26.84

(b) On July 15, 2016, we issued an aggregate of 18,995 shares of our common stock in connection with a transaction under South Africa's Black Economic Empowerment program to a South African education trust. The offer and sale of the securities were effected without registration in reliance on Regulation S promulgated under the Securities Act of 1933, as amended.

(c) Issuer purchases of equity securities (in millions, except per-share amounts):

Period	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 Plans or Programs
May 1, 2016 to May 28, 2016	9	\$ 27.44	9	\$ 15,956
May 29, 2016 to June 25, 2016	6	\$ 28.93	6	\$ 15,777
June 26, 2016 to July 30, 2016	13	\$ 29.48	13	\$ 15,403
Total	28	\$ 28.70	28	

On September 13, 2001, we announced that our Board of Directors had authorized a stock repurchase program. As of July 30, 2016, our Board of Directors had authorized the repurchase of up to \$112 billion of common stock under this program. During