

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

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. 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"> • Cisco ASR 900 and 920 Series • Cisco ASR 1000 Series • Cisco ASR 5000 and 5500 Series • Cisco ASR 9000 Series 	<ul style="list-style-type: none"> • Cisco 800 Series ISR • Cisco 1900 Series ISR • Cisco 2900 Series ISR • Cisco 3900 Series ISR • Cisco 4300 Series ISR • Cisco 4400 Series ISR 	<ul style="list-style-type: none"> • Cisco NCS 1000 Series • Cisco NCS 2000 Series • Cisco NCS 4000 Series • Cisco Cloud Services Router 1000V • Other routing products
Cisco Carrier Routing Systems (CRS):		
<ul style="list-style-type: none"> • Cisco CRS-1 • Cisco CRS-3 • Cisco CRS-X 		

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

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:

- | | |
|---|--|
| <ul style="list-style-type: none"> Cable Access/Infrastructure Cable/Telecommunications Access Infrastructure: <ul style="list-style-type: none"> • Cable modem termination systems (CMTSs) • Hybrid fiber coaxial (HFC) access network products • Quadrature amplitude modulation (QAM) products Network Function Virtualization (NFV) products | <ul style="list-style-type: none"> Service Provider Video Software and Solutions <ul style="list-style-type: none"> • 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 ⁽¹⁾	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 fiscal 2016, we repurchased and retired 148 million shares of our common stock at an average price of \$26.45 per share for an aggregate purchase price of \$3.9 billion. As of July 30, 2016, we had repurchased and retired 4.6 billion shares of our common stock at an average price of \$21.04 per share for an aggregate purchase price of \$96.6 billion since inception of the stock repurchase program, and the remaining authorized amount for stock repurchases under this program was \$15.4 billion with no termination date.

For the majority of restricted stock units granted, the number of shares issued on the date the restricted stock units vest is net of shares withheld to meet applicable tax withholding requirements. Although these withheld shares are not issued or considered common stock repurchases under our stock repurchase program and therefore are not included in the preceding table, they are treated as common stock repurchases in our financial statements as they reduce the number of shares that would have been issued upon vesting (see Note 13 to the Consolidated Financial Statements).

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Stock Performance Graph

The information contained in this Stock Performance Graph section shall not be deemed to be “soliciting material” or “filed” or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934, except to the extent that Cisco specifically incorporates it by reference into a document filed under the Securities Act of 1933 or the Securities Exchange Act of 1934.

The following graph shows a five-year comparison of the cumulative total shareholder return on Cisco common stock with the cumulative total returns of the S&P 500 Index, and the S&P Information Technology Index. The graph tracks the performance of a \$100 investment in the Company’s common stock and in each of the indexes (with the reinvestment of all dividends) on the date specified. Shareholder returns over the indicated period are based on historical data and should not be considered indicative of future shareholder returns.

Comparison of 5-Year Cumulative Total Return Among Cisco Systems, Inc.,
the S&P 500 Index, and the S&P Information Technology Index

	July 2011	July 2012	July 2013	July 2014	July 2015	July 2016
Cisco Systems, Inc.	\$100.00	\$99.79	\$167.05	\$175.47	\$197.66	\$219.92
S&P 500	\$100.00	\$109.65	\$136.86	\$163.41	\$175.32	\$187.36
S&P Information Technology	\$100.00	\$112.69	\$125.25	\$164.35	\$181.01	\$199.29

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Item 6. Selected Financial Data

Five Years Ended July 30, 2016 (in millions, except per-share amounts)

Years Ended	July 30, 2016 ⁽¹⁾ (2)	July 25, 2015 ⁽¹⁾	July 26, 2014 ⁽³⁾	July 27, 2013 (4)	July 28, 2012
Revenue	\$49,247	\$49,161	\$47,142	\$ 48,607	\$46,061
Net income	\$10,739	\$8,981	\$7,853	\$ 9,983	\$8,041
Net income per share—basic	\$2.13	\$1.76	\$1.50	\$ 1.87	\$1.50
Net income per share—diluted	\$2.11	\$1.75	\$1.49	\$ 1.86	\$1.49
Shares used in per-share calculation—basic	5,053	5,104	5,234	5,329	5,370
Shares used in per-share calculation—diluted	5,088	5,146	5,281	5,380	5,404
Cash dividends declared per common share	\$0.94	\$0.80	\$0.72	\$ 0.62	\$0.28
Net cash provided by operating activities	\$13,570	\$12,552	\$12,332	\$ 12,894	\$11,491
	July 30, 2016	July 25, 2015	July 26, 2014	July 27, 2013	July 28, 2012
Cash and cash equivalents and investments	\$65,756	\$60,416	\$52,074	\$ 50,610	\$48,716
Total assets	\$121,652	\$113,373	\$105,070	\$ 101,138	\$91,697
Debt	\$28,643	\$25,354	\$20,845	\$ 16,158	\$16,266
Deferred revenue	\$16,472	\$15,183	\$14,142	\$ 13,423	\$12,880

(1) In the second quarter of fiscal 2016, Cisco completed the sale of the SP Video CPE Business. As a result, revenue from this portion of the Service Provider Video product category will not recur in future periods. The sale resulted in a pre-tax gain of \$253 million, net of certain transaction costs incurred in prior periods. The years ended July 30, 2016 and July 25, 2015 include SP Video CPE Business revenue of \$504 million and \$1,846 million, respectively.

(2) In the second quarter of fiscal 2016, the Internal Revenue Service (IRS) and Cisco settled all outstanding items related to Cisco's federal income tax returns for fiscal 2008 through fiscal 2010. As a result of the settlement, Cisco recorded a net tax benefit of \$367 million. Also during the second quarter of fiscal 2016, the Protecting Americans from Tax Hikes Act of 2015 reinstated the U.S. federal R&D tax credit permanently. As a result, Cisco recognized tax benefits of \$226 million in fiscal 2016, of which \$81 million related to fiscal 2015 R&D expenses.

(3) In the second quarter of fiscal 2014, Cisco recorded a pre-tax charge of \$655 million to product cost of sales, which corresponds to \$526 million, net of tax, for the expected remediation cost for certain products sold in prior fiscal years containing memory components manufactured by a single supplier between 2005 and 2010. See Note 12(f) to the Consolidated Financial Statements.

(4) In the second quarter of fiscal 2013, the IRS and Cisco settled all outstanding items related to Cisco's federal income tax returns for fiscal 2002 through fiscal 2007. As a result of the settlement, Cisco recorded a net tax benefit of \$794 million. Also during the second quarter of fiscal 2013, the American Taxpayer Relief Act of 2012 reinstated the U.S. federal R&D tax credit, retroactive to January 1, 2012. As a result, Cisco recognized tax benefits of \$184 million in fiscal 2013, of which \$72 million related to fiscal 2012 R&D expenses.

No other factors materially affected the comparability of the information presented above.

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

Forward-Looking Statements

This Annual Report on Form 10-K, including this 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 under “Part I, 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.

OVERVIEW

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.

A summary of our results is as follows (in millions, except percentages and per-share amounts):

	Three Months Ended			Years Ended		
	July 30, 2016	July 25, 2015	Variance	July 30, 2016	July 25, 2015	Variance
Revenue ⁽¹⁾	\$12,638	\$12,843	(1.6)%	\$49,247	\$49,161	0.2 %
Gross margin percentage	63.1 %	60.2 %	2.9 pts	62.9 %	60.4 %	2.5 pts
Research and development	\$1,601	\$1,548	3.4 %	\$6,296	\$6,207	1.4 %
Sales and marketing	\$2,443	\$2,549	(4.2)%	\$9,619	\$9,821	(2.1)%
General and administrative	\$533	\$536	(0.6)%	\$1,814	\$2,040	(11.1)%
Total R&D, sales and marketing, general and administrative	\$4,577	\$4,633	(1.2)%	\$17,729	\$18,068	(1.9)%
Total as a percentage of revenue	36.2 %	36.1 %	0.1 pts	36.0 %	36.8 %	(0.8) pts
Amortization of purchased intangible assets included in operating expenses	\$82	\$146	(43.8)%	\$303	\$359	(15.6)%
Restructuring and other charges included in operating expenses	\$13	\$73	(82.2)%	\$268	\$484	(44.6)%
Operating income as a percentage of revenue	26.1 %	22.4 %	3.7 pts	25.7 %	21.9 %	3.8 pts
Income tax percentage	17.1 %	20.9 %	(3.8) pts	16.9 %	19.8 %	(2.9) pts
Net income	\$2,813	\$2,319	21.3 %	\$10,739	\$8,981	19.6 %
Net income as a percentage of revenue	22.3 %	18.1 %	4.2 pts	21.8 %	18.3 %	3.5 pts
Earnings per share—diluted	\$0.56	\$0.45	24.4 %	\$2.11	\$1.75	20.6 %

⁽¹⁾ During the second quarter of fiscal 2016, we completed the sale of the SP Video CPE Business. As a result, revenue from this portion of the Service Provider Video product category will not recur in future periods. The three months ended July 25, 2015 includes SP Video CPE Business revenue of \$487 million. The years ended July 30, 2016 and July 25, 2015 include SP Video CPE Business revenue of \$504 million and \$1,846 million, respectively.

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Fiscal 2016 Compared with Fiscal 2015—Financial Performance

For fiscal 2016, our total revenue was flat compared with fiscal 2015, as the service revenue increase of 5% was substantially offset by the product revenue decrease of 1%. In the second quarter of fiscal 2016, we completed the sale of our SP Video CPE Business. Total company revenue for fiscal 2016 increased 3% not including revenue from SP Video CPE products for all periods. Additionally, fiscal 2016 had 53 weeks, compared with 52 weeks in fiscal 2015, thus our results for fiscal 2016 reflect an extra week compared with fiscal 2015. We estimate that the additional revenue associated with the extra week was approximately \$265 million, \$200 million of which was from our services subscriptions, and \$65 million from our software-as-a-service (SaaS) offerings such as WebEx, and a small amount from product distribution. Total gross margin increased by 2.5 percentage points, driven by productivity improvements, the sale of the lower margin SP Video CPE Business, and higher service gross margin. As a percentage of revenue, research and development, sales and marketing, and general and administrative expenses, collectively, decreased by 0.8 percentage points, driven in part by the \$253 million pre-tax gain from the sale of the SP Video CPE Business. Operating income as a percentage of revenue increased by 3.8 percentage points, driven by the factors discussed above as well as a decrease in restructuring and other charges related to the restructuring action announced in August 2014. Diluted earnings per share increased by 21% from the prior year, as a result of both a 20% increase in net income and a decrease in diluted share count of 58 million shares.

Revenue from the Americas decreased by \$244 million, driven by the sale of the SP Video CPE Business. Revenue for the Americas segment increased not including SP Video CPE products. EMEA revenue decreased by \$41 million, led by a product revenue decline in Russia. Revenue in our APJC segment increased \$371 million, led by product revenue growth in China. We saw improvements in our revenue from many emerging countries, and in particular we experienced product revenue growth in the emerging countries of China, India and Mexico of 22%, 18% and 3%, respectively. The “BRICM” countries experienced, in the aggregate, product revenue growth of 3%, despite decreased product revenue in Brazil and Russia of 34% and 31%, respectively.

From a customer market standpoint, in fiscal 2016 we experienced solid product revenue growth in the commercial market and, to a lesser extent, in the public sector and enterprise markets, while the service provider market declined. The decline in the service provider market was driven by the sale of the SP Video CPE Business.

From a product category perspective, total company product revenue, not including SP Video CPE products, increased 2% year over year. This increase was led by product revenue growth in Security and Collaboration which grew 13% and 9%, respectively. We also experienced a 12% increase in revenue from Service Provider Video products (not including the CPE Business for all periods), as well as Data Center and Wireless products which grew 5% and 3%, respectively. Offsetting these increases was a 4% product revenue decrease in our NGN Routing category, driven primarily by a decrease in sales of our high-end router products. In addition, we believe a cautious service provider capital expenditure spending environment negatively impacted sales in this product category. Sales of our Switching products were flat due to higher sales of data center switches, flat sales of switches used in campus environments (which comprises the majority of this product category), and lower sales of storage products. We believe the flat sales of switches used in campus environments was largely driven by uncertainty in the macro environment, which led to a slowdown in customer spending.

Over this past fiscal year, we experienced a challenging environment with significant volatility and a highly competitive landscape. After three consecutive quarters of positive business momentum in both the service provider customer market and emerging countries in the aggregate, these areas experienced a decline in business momentum during the fourth quarter of fiscal 2016, while the remainder of the business performed well with positive business momentum.

In summary, for fiscal 2016 we experienced solid revenue growth in Security, Switching products used in data centers, Collaboration, and our Services categories. In addition, we continued to make progress in the transition of our business model to software and subscriptions. We remain focused on accelerating innovation across our portfolio, and we believe that we have made solid progress over the past year in these priority areas. While the overall macro environment remains uncertain, we believe we are well positioned. At the same time, we are aggressively investing in priority areas to drive growth over the long term regardless of the environment.

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Fourth Quarter Snapshot

For the fourth quarter of fiscal 2016, as compared with the corresponding period in fiscal 2015, total revenue decreased by 2%. Within the total revenue, product revenue decreased 4% while service revenue increased by 5%. Total company revenue for the fourth quarter of fiscal 2016 increased 2% not including revenue from SP Video CPE products (which was sold on November 20, 2015) in the prior year period. With regard to our geographic segment performance, on a year-over-year basis, revenue in the Americas and APJC each decreased by 2%, while EMEA was flat. From a product category perspective, total company product revenue, not including SP Video CPE products in the prior year period, increased 1% year over year. This increase was driven by growth from Security products which grew 16% year over year. Total gross margin increased by 2.9 percentage points, as results for the fourth quarter of fiscal 2016 did not include the lower margin SP Video CPE Business. As a percentage of revenue, research and development, sales and marketing, and general and administrative expenses collectively increased by 0.1 percentage points. Operating income as a percentage of revenue increased by 3.7 percentage points. Diluted earnings per share increased by 24% from the prior year, primarily as a result of both a 21% increase in net income and a decrease in our diluted share count by 64 million shares.

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.

For a full discussion of our strategy and focus areas, see Item 1. Business.

Other Key Financial Measures

The following is a summary of our other key financial measures for fiscal 2016 compared with fiscal 2015 (in millions, except days sales outstanding in accounts receivable (DSO) and annualized inventory turns):

	Fiscal 2016	Fiscal 2015
Cash and cash equivalents and investments	\$65,756	\$60,416
Cash provided by operating activities	\$13,570	\$12,552
Deferred revenue	\$16,472	\$15,183
Repurchases of common stock—stock repurchase program	\$3,918	\$4,234
Dividends	\$4,750	\$4,086
DSO	42 days	38 days
Inventories	\$1,217	\$1,627
Annualized inventory turns	14.6	12.1

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The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States requires us to make judgments, assumptions, and estimates that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. Note 2 to the Consolidated Financial Statements describes the significant accounting policies and methods used in the preparation of the Consolidated Financial Statements. The accounting policies described below are significantly affected by critical accounting estimates. Such accounting policies require significant judgments, assumptions, and estimates used in the preparation of the Consolidated Financial Statements, and actual results could differ materially from the amounts reported based on these policies.

Revenue Recognition

Revenue is recognized when all of the following criteria have been met:

- Persuasive evidence of an arrangement exists. Contracts, Internet commerce agreements, and customer purchase orders are generally used to determine the existence of an arrangement.

Delivery has occurred. Shipping documents and customer acceptance, when applicable, are used to verify delivery.

For software, delivery is considered to have occurred upon unrestricted license access and license term commencement, when applicable.

The fee is fixed or determinable. We assess whether the fee is fixed or determinable based on the payment terms associated with the transaction and whether the sales price is subject to refund or adjustment.

Collectibility is reasonably assured. We assess collectibility based primarily on the creditworthiness of the customer as determined by credit checks and analysis, as well as the customer's payment history.

In instances where final acceptance of the product, system, or solution is specified by the customer, revenue is deferred until all acceptance criteria have been met. When a sale involves multiple deliverables, such as sales of products that include services, the multiple deliverables are evaluated to determine the unit of accounting, and the entire fee from the arrangement is allocated to each unit of accounting based on the relative selling price. Revenue is recognized when the revenue recognition criteria for each unit of accounting are met. For hosting arrangements, we recognize subscription revenue ratably over the subscription period, while usage revenue is recognized based on utilization. Software subscription revenue is deferred and recognized ratably over the subscription term upon delivery of the first product and commencement of the term.

The amount of revenue recognized in a given period is affected by our judgment as to whether an arrangement includes multiple deliverables and, if so, our valuation of the units of accounting. Our multiple element arrangements may contain only deliverables within the scope of Accounting Standards Codification (ASC) 605, Revenue Recognition, deliverables within the scope of ASC 985-605, Software-Revenue Recognition, or a combination of both. According to the accounting guidance prescribed in ASC 605, we use vendor-specific objective evidence of selling price (VSOE) for each of those units, when available. We determine VSOE based on our normal pricing and discounting practices for the specific product or service when sold separately. In determining VSOE, we require that a substantial majority of the historical standalone transactions have the selling prices for a product or service fall within a reasonably narrow pricing range, generally evidenced by approximately 80% of such historical standalone transactions falling within plus or minus 15% of the median rates. When VSOE does not exist, we apply the selling price hierarchy to applicable multiple-deliverable arrangements. Under the selling price hierarchy, third-party evidence of selling price (TPE) will be considered if VSOE does not exist, and estimated selling price (ESP) will be used if neither VSOE nor TPE is available. Generally, we are not able to determine TPE because our go-to-market strategy differs from that of others in our markets, and the extent of our proprietary technology varies among comparable products or services from those of our peers. In determining ESP, we apply significant judgment as we weigh a variety of factors, based on the characteristics of the deliverable. We typically arrive at an ESP for a product or service that is not sold separately by considering company-specific factors such as geographies, competitive landscape, internal costs, profitability objectives, pricing practices used to establish bundled pricing, and existing portfolio pricing and discounting.

As our business and offerings evolve over time, our pricing practices may be required to be modified accordingly, which could result in changes in selling prices, including both VSOE and ESP, in subsequent periods. There were no

material impacts during fiscal 2016, nor do we currently expect a material impact in the next 12 months on our revenue recognition due to any changes in our VSOE, TPE, or ESP.

We make sales to distributors which we refer to as two-tier sales to the end customer. Revenue from two-tier distributors is recognized based on a sell-through method using point-of-sale information provided by these distributors. Distributors participate in various cooperative marketing and other incentive programs, and we maintain estimated accruals and allowances for these programs. If actual credits received by distributors under these programs were to deviate significantly from our estimates, which are based on historical experience, our revenue could be adversely affected.

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Allowances for Receivables and Sales Returns

The allowances for receivables were as follows (in millions, except percentages):

	July 30, 2016	July 25, 2015		
Allowance for doubtful accounts	\$ 249	\$ 302		
Percentage of gross accounts receivable	4.1	% 5.4	%	
Allowance for credit loss—lease receivables	\$ 230	\$ 259		
Percentage of gross lease receivables ⁽¹⁾	6.6	% 7.2	%	
Allowance for credit loss—loan receivables	\$ 97	\$ 87		
Percentage of gross loan receivables	4.5	% 4.9	%	

⁽¹⁾ Calculated as allowance for credit loss on lease receivables as a percentage of gross lease receivables and residual value before unearned income.

The allowance for doubtful accounts is based on our assessment of the collectibility of customer accounts. We regularly review the adequacy of these allowances by considering internal factors such as historical experience, credit quality and age of the receivable balances as well as external factors such as economic conditions that may affect a customer's ability to pay as well as historical and expected default frequency rates, which are published by major third-party credit-rating agencies and are updated on a quarterly basis. We also consider the concentration of receivables outstanding with a particular customer in assessing the adequacy of our allowances for doubtful accounts. If a major customer's creditworthiness deteriorates, if actual defaults are higher than our historical experience, or if other circumstances arise, our estimates of the recoverability of amounts due to us could be overstated, and additional allowances could be required, which could have an adverse impact on our operating results.

The allowance for credit loss on financing receivables is also based on the assessment of collectibility of customer accounts. We regularly review the adequacy of the credit allowances determined either on an individual or a collective basis. When evaluating the financing receivables on an individual basis, we consider historical experience, credit quality and age of receivable balances, and economic conditions that may affect a customer's ability to pay. When evaluating financing receivables on a collective basis, we use expected default frequency rates published by a major third-party credit-rating agency as well as our own historical loss rate in the event of default, while also systematically giving effect to economic conditions, concentration of risk and correlation. Determining expected default frequency rates and loss factors associated with internal credit risk ratings, as well as assessing factors such as economic conditions, concentration of risk, and correlation, are complex and subjective. Our ongoing consideration of all these factors could result in an increase in our allowance for credit loss in the future, which could adversely affect our operating results. Both accounts receivable and financing receivables are charged off at the point when they are considered uncollectible.

A reserve for future sales returns is established based on historical trends in product return rates. The reserve for future sales returns as of July 30, 2016 and July 25, 2015 was \$126 million and \$129 million, respectively, and was recorded as a reduction of our accounts receivable and revenue. If the actual future returns were to deviate from the historical data on which the reserve had been established, our revenue could be adversely affected.

Inventory Valuation and Liability for Purchase Commitments with Contract Manufacturers and Suppliers

Inventory is written down based on excess and obsolete inventories, determined primarily by future demand forecasts. Inventory write-downs are measured as the difference between the cost of the inventory and market, based upon assumptions about future demand, and are charged to the provision for inventory, which is a component of our cost of sales. At the point of the loss recognition, a new, lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in that newly established cost basis. We record a liability for firm, noncancelable, and unconditional purchase commitments with contract manufacturers and suppliers for quantities in excess of our future demand forecasts consistent with the valuation of our excess and obsolete inventory. As of July 30, 2016, the liability for these purchase commitments was \$159 million, compared with \$156 million as of July 25, 2015, and was included in other current liabilities.

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Our provision for inventory was \$65 million, \$54 million, and \$67 million in fiscal 2016, 2015, and 2014, respectively. The provision for the liability related to purchase commitments with contract manufacturers and suppliers was \$134 million, \$102 million, and \$124 million in fiscal 2016, 2015, and 2014, respectively. If there were to be a sudden and significant decrease in demand for our products, or if there were a higher incidence of inventory obsolescence because of rapidly changing technology and customer requirements, we could be required to increase our inventory write-downs, and our liability for purchase commitments with contract manufacturers and suppliers, and accordingly our profitability, could be adversely affected. We regularly evaluate our exposure for inventory write-downs and the adequacy of our liability for purchase commitments. Inventory and supply chain management remain areas of focus as we balance the need to maintain supply chain flexibility to help ensure competitive lead times with the risk of inventory obsolescence, particularly in light of current macroeconomic uncertainties and conditions and the resulting potential for changes in future demand forecast.

Loss Contingencies and Product Warranties

We are subject to the possibility of various losses arising in the ordinary course of business. We consider the likelihood of impairment of an asset or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired or a liability has been incurred and the amount of loss can be reasonably estimated. We regularly evaluate information available to us to determine whether such accruals should be made or adjusted and whether new accruals are required.

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. If any infringement or other intellectual property claim made against us by any third party is successful, 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.

We have recorded a liability for the expected remediation cost for certain products sold in prior fiscal years containing memory components manufactured by a single supplier between 2005 and 2010. In February 2014, on the basis of the growing number of failures as described in Note 12 (f) to the Consolidated Financial Statements, we decided to expand our approach, which resulted in a charge to product cost of sales of \$655 million being recorded for the second quarter of fiscal 2014. During fiscal 2016 and 2015, we recorded adjustments to product cost of sales of \$74 million and \$164 million, respectively to reduce the liability, reflecting net lower than previously estimated future costs to remediate the impacted customer products. Estimating this liability is complex and subjective, and if we experience changes in a number of underlying assumptions and estimates such as a change in claims compared with our expectations, or if the cost of servicing these claims is different than expected, our estimated liability may be impacted.

Our products are generally covered by a warranty for periods ranging from 90 days to five years, and for some products we provide a limited lifetime warranty. We accrue for warranty costs as part of our cost of sales based on associated material costs, technical support labor costs, and associated overhead. Material cost is estimated based primarily upon historical trends in the volume of product returns within the warranty period and the cost to repair or replace the equipment. Technical support labor cost is estimated based primarily upon historical trends in the rate of customer cases and the cost to support the customer cases within the warranty period. Overhead cost is applied based on estimated time to support warranty activities.

If we experience an increase in warranty claims compared with our historical experience, or if the cost of servicing warranty claims is greater than expected, our profitability could be adversely affected.

Fair Value Measurements

Our fixed income and publicly traded equity securities, collectively, are reflected in the Consolidated Balance Sheets at a fair value of \$58.1 billion as of July 30, 2016, compared with \$53.5 billion as of July 25, 2015. Our fixed income investment portfolio, as of July 30, 2016, consisted primarily of high quality investment-grade securities. See Note 8 to the Consolidated Financial Statements.

As described more fully in Note 2 to the Consolidated Financial Statements, a valuation hierarchy is based on the level of independent, objective evidence available regarding the value of the investments. It encompasses three classes of investments: Level 1 consists of securities for which there are quoted prices in active markets for identical securities; Level 2 consists of securities for which observable inputs other than Level 1 inputs are used, such as quoted prices for similar securities in active markets or quoted prices for identical securities in less active markets and model-derived valuations for which the variables are derived from, or corroborated by, observable market data; and Level 3 consists of securities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value.

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Our Level 2 securities are valued using quoted market prices for similar instruments or nonbinding market prices that are corroborated by observable market data. We use inputs such as actual trade data, benchmark yields, broker/dealer quotes, and other similar data, which are obtained from independent pricing vendors, quoted market prices, or other sources to determine the ultimate fair value of our assets and liabilities. We use such pricing data as the primary input, to which we have not made any material adjustments during fiscal 2016 and 2015, to make our assessments and determinations as to the ultimate valuation of our investment portfolio. We are ultimately responsible for the financial statements and underlying estimates.

The inputs and fair value are reviewed for reasonableness, may be further validated by comparison to publicly available information, and could be adjusted based on market indices or other information that management deems material to its estimate of fair value. The assessment of fair value can be difficult and subjective. However, given the relative reliability of the inputs we use to value our investment portfolio, and because substantially all of our valuation inputs are obtained using quoted market prices for similar or identical assets, we do not believe that the nature of estimates and assumptions affected by levels of subjectivity and judgment was material to the valuation of the investment portfolio as of July 30, 2016. Level 3 assets do not represent a significant portion of our total assets measured at fair value on a recurring basis as of July 30, 2016 and July 25, 2015.

Other-than-Temporary Impairments

We recognize an impairment charge when the declines in the fair values of our fixed income or publicly traded equity securities below their cost basis are judged to be other than temporary. The ultimate value realized on these securities, to the extent unhedged, is subject to market price volatility until they are sold.

If the fair value of a debt security is less than its amortized cost, we assess whether the impairment is other than temporary. An impairment is considered other than temporary if (i) we have the intent to sell the security, (ii) it is more likely than not that we will be required to sell the security before recovery of its entire amortized cost basis, or (iii) we do not expect to recover the entire amortized cost of the security. If an impairment is considered other than temporary based on (i) or (ii) described in the prior sentence, the entire difference between the amortized cost and the fair value of the security is recognized in earnings. If an impairment is considered other than temporary based on condition (iii), the amount representing credit loss, defined as the difference between the present value of the cash flows expected to be collected and the amortized cost basis of the debt security, will be recognized in earnings, and the amount relating to all other factors will be recognized in other comprehensive income (OCI). In estimating the amount and timing of cash flows expected to be collected, we consider all available information, including past events, current conditions, the remaining payment terms of the security, the financial condition of the issuer, expected defaults, and the value of underlying collateral.

For publicly traded equity securities, we consider various factors in determining whether we should recognize an impairment charge, including the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the issuer, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

We also have investments in privately held companies, some of which are in the startup or development stages. As of July 30, 2016, our investments in privately held companies were \$1,003 million, compared with \$897 million as of July 25, 2015, and were included in other assets. We monitor these investments for events or circumstances indicative of potential impairment, and we make appropriate reductions in carrying values if we determine that an impairment charge is required, based primarily on the financial condition and near-term prospects of these companies. These investments are inherently risky because the markets for the technologies or products these companies are developing are typically in the early stages and may never materialize. Our impairment charges on investments in privately held companies were \$67 million, \$41 million, and \$23 million in fiscal 2016, 2015, and 2014, respectively.

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Goodwill and Purchased Intangible Asset Impairments

Our methodology for allocating the purchase price relating to purchase acquisitions is determined through established valuation techniques. Goodwill represents a residual value as of the acquisition date, which in most cases results in measuring goodwill as an excess of the purchase consideration transferred plus the fair value of any noncontrolling interest in the acquired company over the fair value of net assets acquired, including contingent consideration. We perform goodwill impairment tests on an annual basis in the fourth fiscal quarter and between annual tests in certain circumstances for each reporting unit. The assessment of fair value for goodwill and purchased intangible assets is based on factors that market participants would use in an orderly transaction in accordance with the new accounting guidance for the fair value measurement of nonfinancial assets.

The goodwill recorded in the Consolidated Balance Sheets as of July 30, 2016 and July 25, 2015 was \$26.6 billion and \$24.5 billion, respectively. In response to changes in industry and market conditions, we could be required to strategically realign our resources and consider restructuring, disposing of, or otherwise exiting businesses, which could result in an impairment of goodwill. There was no impairment of goodwill in fiscal 2016, 2015, and 2014. For the annual impairment testing in fiscal 2016, the excess of the fair value over the carrying value for each of our reporting units was \$40.8 billion for the Americas, \$29.4 billion for EMEA, and \$13.1 billion for APJC. During the fourth quarter of fiscal 2016, we performed a sensitivity analysis for goodwill impairment with respect to each of our respective reporting units and determined that a hypothetical 10% decline in the fair value of each reporting unit would not result in an impairment of goodwill for any reporting unit.

The fair value of acquired technology and patents, as well as acquired technology under development, is determined at acquisition date primarily using the income approach, which discounts expected future cash flows to present value. The discount rates used in the present value calculations are typically derived from a weighted-average cost of capital analysis and then adjusted to reflect risks inherent in the development lifecycle as appropriate. We consider the pricing model for products related to these acquisitions to be standard within the high-technology communications industry, and the applicable discount rates represent the rates that market participants would use for valuation of such intangible assets.

We make judgments about the recoverability of purchased intangible assets with finite lives whenever events or changes in circumstances indicate that an impairment may exist. Recoverability of purchased intangible assets with finite lives is measured by comparing the carrying amount of the asset to the future undiscounted cash flows the asset is expected to generate. We review indefinite-lived intangible assets for impairment annually or whenever events or changes in circumstances indicate that the asset might be impaired. If the asset is considered to be impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired asset. Assumptions and estimates about future values and remaining useful lives of our purchased intangible assets are complex and subjective. They can be affected by a variety of factors, including external factors such as industry and economic trends, and internal factors such as changes in our business strategy and our internal forecasts. Our impairment charges related to purchased intangible assets were \$74 million and \$175 million during fiscal 2016 and 2015, respectively. There were no impairment charges related to purchased intangible assets during fiscal 2014. Our ongoing consideration of all the factors described previously could result in additional impairment charges in the future, which could adversely affect our net income.

Income Taxes

We are subject to income taxes in the United States and numerous foreign jurisdictions. Our effective tax rates differ from the statutory rate, primarily due to the tax impact of state taxes, foreign operations, R&D tax credits, domestic manufacturing deductions, tax audit settlements, nondeductible compensation, international realignments, and transfer pricing adjustments. Our effective tax rate was 16.9%, 19.8%, and 19.2% in fiscal 2016, 2015, and 2014, respectively. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes. Although we believe our reserves are reasonable, no assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in our historical income tax provisions and accruals. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made. The

provision for income taxes includes the impact of reserve provisions and changes to reserves that are considered appropriate, as well as the related net interest and penalties.

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

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Our provision for income taxes is subject to volatility and could be adversely impacted 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 attributes 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. 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 (IRS) and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuous examinations will not have an adverse impact on our operating results and financial condition.

RESULTS OF OPERATIONS

Revenue

The following table presents the breakdown of revenue between product and service (in millions, except percentages):

	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Percent	Variance in Dollars	Variance in Percent
Revenue:							
Product	\$37,254	\$37,750	\$36,172	\$(496)	(1.3)%	\$1,578	4.4 %
Percentage of revenue	75.6 %	76.8 %	76.7 %				
Service	11,993	11,411	10,970	582	5.1 %	441	4.0 %
Percentage of revenue	24.4 %	23.2 %	23.3 %				
Total	\$49,247	\$49,161	\$47,142	\$86	0.2 %	\$2,019	4.3 %

We manage our business primarily on a geographic basis, organized into three geographic segments. Our revenue, which includes product and service for each segment, is summarized in the following table (in millions, except percentages):

	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Percent	Variance in Dollars	Variance in Percent
Revenue:							
Americas	\$29,411	\$29,655	\$27,781	\$(244)	(0.8)%	\$1,874	6.7 %
Percentage of revenue	59.7 %	60.3 %	58.9 %				
EMEA	12,281	12,322	12,006	(41)	(0.3)%	316	2.6 %
Percentage of revenue	24.9 %	25.1 %	25.5 %				
APJC	7,555	7,184	7,355	371	5.2 %	(171)	(2.3)%
Percentage of revenue	15.4 %	14.6 %	15.6 %				

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Total	\$49,247	\$49,161	\$47,142	\$86	0.2	%	\$2,019	4.3	%
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Fiscal 2016 Compared with Fiscal 2015

For fiscal 2016, as compared with fiscal 2015, total revenue was flat. Total company revenue not including SP Video CPE products increased 3%. Product revenue decreased by 1% in total, but increased by 2% for product revenue not including SP Video CPE products. Service revenue increased by 5%. Fiscal 2016 had 53 weeks, compared with 52 weeks in fiscal 2015, thus our results for fiscal 2016 reflect an extra week. We estimate that the additional revenue associated with the extra week was approximately \$265 million, \$200 million of which was from our services subscriptions, and \$65 million from our SaaS offerings such as WebEx, and a small amount from product distribution. Our total revenue grew in our APJC geographic segment, while revenue declined in the Americas and EMEA geographic segments. The emerging countries of BRICM, in the aggregate, experienced 3% product revenue growth, with growth in China, India and Mexico, partially offset by decreases in the other two BRICM countries. We conduct business globally in numerous currencies. The direct effect of foreign currency fluctuations on revenue has not been material because our revenue is primarily denominated in U.S. dollars. However, if the U.S. dollar strengthens relative to other currencies, as was the case during fiscal 2016, such strengthening could have an indirect effect on our revenue to the extent it raises the cost of our products to non-U.S. customers and thereby reduces demand. A weaker U.S. dollar could have the opposite effect. However, the precise indirect effect of currency fluctuations is difficult to measure or predict because our revenue is influenced by many factors in addition to the impact of such currency fluctuations. Our revenue in fiscal 2016 was adversely affected by the depreciation of certain currencies relative to the U.S. dollar and especially currencies in certain emerging countries, although the indirect effects are difficult to measure.

In addition to the impact of macroeconomic factors, including a reduced IT spending environment and reductions in spending by government entities, revenue by segment in a particular period may be significantly impacted by several factors related to revenue recognition, including the complexity of transactions such as multiple-element arrangements; the mix of financing arrangements provided to channel partners and customers; and final acceptance of the product, system, or solution, among other factors. In addition, certain customers tend to make large and sporadic purchases, and the revenue related to these transactions may also be affected by the timing of revenue recognition, which in turn would impact the revenue of the relevant segment. As has been the case in certain emerging countries from time to time, customers require greater levels of financing arrangements, service, and support, and these activities may occur in future periods, which may also impact the timing of the recognition of revenue.

Fiscal 2015 Compared with Fiscal 2014

For fiscal 2015, as compared with fiscal 2014, total revenue increased by 4%, as product and service revenue each increased by 4%. Our total revenue grew in our Americas and EMEA geographic segments, while revenue declined in the APJC segment. The emerging countries of BRICM, in the aggregate, experienced a 4% product revenue decline, with declines in China and Russia partially offset by increases in the other three BRICM countries.

Product Revenue by Segment

The following table presents the breakdown of product revenue by segment (in millions, except percentages):

	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Percent	Variance in Dollars	Variance in Percent
Product revenue:							
Americas	\$21,679	\$22,261	\$20,631	\$(582)	(2.6)%	\$1,630	7.9%
Percentage of product revenue	58.2%	59.0%	57.0%				
EMEA	9,658	9,856	9,655	(198)	(2.0)%	201	2.1%
Percentage of product revenue	25.9%	26.1%	26.7%				
APJC	5,917	5,633	5,886	284	5.0%	(253)	(4.3)%
Percentage of product revenue	15.9%	14.9%	16.3%				
Total	\$37,254	\$37,750	\$36,172	\$(496)	(1.3)%	\$1,578	4.4%

During the second quarter of fiscal 2016, we completed the sale of our SP Video CPE Business. As a result, fiscal 2016 includes only four months of product revenue from our SP Video CPE Business. Revenue from this portion of the Service Provider Video product category will not recur in future periods. SP Video CPE Business revenue was \$504 million, \$1,846 million and \$2,240 million for fiscal 2016, 2015 and 2014, respectively.

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Americas

Fiscal 2016 Compared with Fiscal 2015

The decrease in product revenue for the Americas segment was driven by a decline of \$1,146 million in product sales related to our SP Video CPE Business. Product revenue not including SP Video CPE products increased for the Americas segment. From a customer markets perspective, the decrease in product revenue in the Americas segment of 3% was led by a significant decline in the service provider market driven by the sale of the SP Video CPE Business. We experienced product revenue growth in the commercial, public sector and enterprise markets. The product revenue growth in the public sector market was due primarily to higher sales to state and local governments, partially offset by lower sales to the U.S. federal government. From a country perspective, product revenue decreased by 34% in Brazil and 24% in Canada partially offset by a slight increase in the United States and an increase of 3% in Mexico.

Fiscal 2015 Compared with Fiscal 2014

The increase in product revenue in the Americas segment of 8% was led by solid growth in the public sector, commercial and enterprise markets. The product revenue growth in the public sector market was due primarily to higher sales to the U.S. federal government and, to a lesser extent, higher sales to state and local governments. The product revenue growth in the enterprise and commercial markets was driven by strength in the United States. We experienced a product revenue decline in the service provider market in this segment. From a country perspective, product revenue increased by 8% in the United States, 34% in Mexico, and 2% in Brazil.

EMEA

Fiscal 2016 Compared with Fiscal 2015

The decrease in product revenue of 2%, or \$198 million, for the EMEA segment was driven by a decline of \$164 million in product sales related to our SP Video CPE Business. From a customer market perspective, the decrease was driven by product revenue declines in the service provider, public sector and enterprise markets, partially offset by product revenue growth in the commercial market. The decline in sales to the service provider market was due primarily to the sale of the SP Video CPE Business. Product revenue from emerging countries within EMEA decreased by 11%, led by a decline in Russia of 31%. Product revenue for the remainder of the EMEA segment, which primarily consists of countries in Western Europe, increased by 1%.

Fiscal 2015 Compared with Fiscal 2014

Product revenue in the EMEA segment increased by 2%, driven by growth in the commercial, public sector and enterprise markets. Product revenue in the service provider market was flat. Product revenue from emerging countries within EMEA increased by 1% and product revenue for the remainder of EMEA grew by 2%.

APJC

Fiscal 2016 Compared with Fiscal 2015

The increase in product revenue in the APJC segment of 5% was led by solid growth in the service provider market and, to a lesser extent, growth in the enterprise, public sector and commercial markets. From a country perspective, product revenue increased by 22% in China, driven by an increase in sales of Service Provider Video software and solutions products, and 18% in India, partially offset by product revenue decreases of 7% in Japan and 5% in Australia. Product revenue for this geographic segment was adversely impacted by a \$32 million decrease in product revenue related to the sale of our SP Video CPE Business.

Fiscal 2015 Compared with Fiscal 2014

The decrease in product revenue in the APJC segment of 4% was led by a significant decline in the service provider market and, to a lesser degree, in the public sector and enterprise markets. These decreases were partially offset by growth in the commercial market. From a country perspective, product revenue decreased by 21% in China and 5% in Japan. We experienced product revenue growth of 15% in India and 8% in Australia.

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Product Revenue by Groups of Similar Products

In addition to the primary view on a geographic basis, we also prepare financial information related to groups of similar products and customer markets for various purposes. Our product categories consist of the following categories (with subcategories in parentheses): Switching (fixed switching, modular switching, and storage); NGN Routing (high-end routers, mid-range and low-end routers, and other NGN Routing products); Collaboration (unified communications, Cisco TelePresence, and conferencing); Data Center; Wireless; Service Provider Video (video software and solutions, and cable access); Security; and Other Products. The Other Products category consists primarily of emerging technology products and other networking products.

The following table presents revenue for groups of similar products (in millions, except percentages):

	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Percent	Variance in Dollars	Variance in Percent
Product revenue:							
Switching	\$14,746	\$14,740	\$14,001	\$6	— %	\$739	5.3 %
Percentage of product revenue	39.6 %	39.1 %	38.7 %				
NGN Routing	7,408	7,704	7,606	(296)	(3.8)%	98	1.3 %
Percentage of product revenue	19.9 %	20.4 %	21.0 %				
Collaboration	4,352	4,004	3,817	348	8.7 %	187	4.9 %
Percentage of product revenue	11.7 %	10.6 %	10.6 %				
Data Center	3,365	3,219	2,640	146	4.5 %	579	21.9 %
Percentage of product revenue	9.0 %	8.5 %	7.3 %				
Wireless	2,625	2,542	2,293	83	3.3 %	249	10.9 %
Percentage of product revenue	7.0 %	6.7 %	6.3 %				
Service Provider Video ⁽¹⁾	2,424	3,555	3,969	(1,131)	(31.8)%	(414)	(10.4)%
Percentage of product revenue	6.5 %	9.4 %	11.0 %				
Security	1,969	1,747	1,566	222	12.7 %	181	11.6 %
Percentage of product revenue	5.3 %	4.6 %	4.3 %				
Other	365	239	280	126	52.7 %	(41)	(14.6)%
Percentage of product revenue	1.0 %	0.7 %	0.8 %				
	\$37,254	\$37,750	\$36,172	\$(496)	(1.3)%	\$1,578	4.4 %

⁽¹⁾ During the second quarter of fiscal 2016, we completed the sale of the SP Video CPE Business. As a result, fiscal 2016 includes only four months of product revenue from SP Video CPE Business. Includes SP Video CPE Business revenue of \$504 million, \$1,846 million and \$2,240 million for fiscal 2016, 2015, and 2014, respectively.

Certain reclassifications have been made to the prior period amounts to conform to the current period's presentation.

Switching

Fiscal 2016 Compared with Fiscal 2015

We believe the flat revenue growth in our Switching product category was driven in large part by the uncertainty in the macro environment which led to a slowdown in customer spending. This led to flat growth in our Switching products used in campus environments which comprise the majority of revenue within this product category. We also experienced decreased revenue from storage products. These impacts were offset by an increase in sales of our Switching products used in data centers, reflecting strength in our Application Centric Infrastructure portfolio. In terms of subcategories, the increase in revenue from LAN fixed-configuration switches of 5%, or \$469 million was substantially offset by decreased revenue from our modular switches of 8%, or \$375 million, and the decreased revenue from storage products of 17%, or \$88 million. Revenue from our LAN-fixed configuration switches increased due primarily to higher sales of our Cisco Catalyst 3850 Series Switches, Cisco Catalyst 3650 Series Switches, Cisco Nexus 9300 Series Switches and Cisco Nexus 3000 Series Switches, partially offset by a decrease in sales of certain other products in this portfolio. Decreased revenue from our modular switches was due primarily to lower sales of most of our Cisco Catalyst Series Switches and also due to lower sales of our Cisco Nexus 7000 Series Switches,

partially offset by sales growth in Cisco Nexus 9500 Series Switches within this product category.

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Fiscal 2015 Compared with Fiscal 2014

The increase in revenue in our Switching product category of 5%, or \$739 million, was driven by a 9%, or \$826 million, increase in revenue from our LAN fixed-configuration switches and, to a lesser extent, a 24%, or \$101 million, increase in sales of storage products. Revenue from LAN fixed-configuration switches increased due to higher sales of most of our Cisco Nexus Series Switches and Cisco Catalyst Series Switches within this category. We experienced a decrease in revenue from our modular switches of 4%, or \$188 million, driven by lower sales of Cisco Catalyst 6500-E Series Switches and Cisco Nexus 7000 Series Switches.

NGN Routing

Fiscal 2016 Compared with Fiscal 2015

We believe a cautious service provider capital expenditure spending environment negatively impacted sales in NGN Routing. Revenue in this product category decreased by 4%, or \$296 million, driven by an 8%, or \$378 million, decrease in revenue from our high-end router products partially offset by an 11%, or \$48 million, increase in revenue from what we categorize as other NGN Routing products and a 1%, or \$34 million, increase in revenue from our mid-range and low-end router products. Revenue from high-end router products decreased due to a decrease in revenue from most of our high-end router products, partially offset by higher sales of our CRS-X products. Revenue from other NGN Routing products increased due to higher sales of optical networking products. The revenue increase in the mid-range and low-end routers was primarily driven by higher sales of Cisco ISR products.

Fiscal 2015 Compared with Fiscal 2014

Revenue in our NGN Routing product category increased by 1%, or \$98 million, driven by a 6%, or \$248 million, increase in revenue from our high-end router products and a slight increase in revenue from our midrange and low-end router products, partially offset by 28%, or \$171 million, decrease in revenue from other NGN Routing products. Revenue from high-end router products increased due to an increase in revenue from most products within our Cisco ASR category and the adoption of our Cisco NCS platform and CRS-X, partially offset by lower sales of our legacy high-end router products. The slight increase in revenue from our midrange and low-end router products was due to higher sales of our Cisco ISR products, partially offset by lower sales of certain of our access products. Revenue from other NGN Routing products decreased primarily due to lower sales of certain optical networking products.

Collaboration

Fiscal 2016 Compared with Fiscal 2015

Revenue from our Collaboration product category increased by 9%, or \$348 million, driven by growth across the various subcategories within this product category. The growth in Conferencing revenue resulted from higher usage and recurring revenue from WebEx, which we include as product revenue in this category. Revenue from Cisco TelePresence products grew due to higher revenue in infrastructure and endpoint products as a result of new product introductions. The increase in Unified Communications revenue was driven by higher software revenue. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Collaboration product category.

Fiscal 2015 Compared with Fiscal 2014

Revenue in our Collaboration product category increased by 5%, or \$187 million, due to increased revenue from our Unified Communications products as a result of higher software revenue and a slight increase in revenue from phones. Higher revenue from our Cisco TelePresence and conferencing products also contributed to the increase. Revenue from Cisco TelePresence products increased due to higher revenue in endpoint products as a result of new product introductions. The increase in conferencing revenue was a result of higher recurring revenue. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Collaboration product category.

Data Center

Fiscal 2016 Compared with Fiscal 2015

The increase in revenue in our Data Center product category of 5%, or \$146 million, was primarily driven by an increase in sales of our Cisco Unified Computing System products, with growth across all geographic segments and

most of the customer markets. We believe the uncertainty in the macro environment led to a slowdown of customer spending for products in this category. Additionally, we are seeing a market transition with computing workloads shifting from blade server systems to rack-based systems. We believe both of these factors adversely impacted the sales of this product category.

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Fiscal 2015 Compared with Fiscal 2014

Revenue in our Data Center product category grew by 22%, or \$579 million, with sales growth of our Cisco Unified Computing System products across all geographic segments and customer markets. The increase was due in large part to the continued momentum we are experiencing in both data center and cloud environments, as current customers increase their data center build-outs and as new customers deploy these offerings.

Wireless

Fiscal 2016 Compared with Fiscal 2015

Revenue in our Wireless product category increased by 3%, or \$83 million, due primarily to continued growth in sales of Meraki products within this category, partially offset by a decrease in sales of our controllers products. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Wireless product category.

Fiscal 2015 Compared with Fiscal 2014

Revenue in our Wireless product category increased by 11%, or \$249 million, driven by continued growth in sales of Meraki products combined with continued strength in our 802.11ac portfolio. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Wireless product category.

Service Provider Video

Fiscal 2016 Compared with Fiscal 2015

The decrease in revenue from our Service Provider Video product category of 32%, or \$1,131 million, was driven by a decrease in product sales of \$1,342 million related to our SP Video CPE Business which we sold during the second quarter of fiscal 2016. This decrease was partially offset by an increase in revenue from certain cable access products and an increase in revenue from our video software and solutions products, particularly in China.

Fiscal 2015 Compared with Fiscal 2014

The decrease in revenue from our Service Provider Video product category of 10%, or \$414 million, was driven by a 16%, or \$332 million, decrease in sales of our Service Provider Video infrastructure products, due primarily to lower sales of set-top boxes. We also experienced a decrease in revenue from cable access products within this product category.

Security

Fiscal 2016 Compared with Fiscal 2015

Revenue in our Security product category increased 13%, or \$222 million, driven by higher sales of advanced threat security, web security and unified threat management products. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Security product category.

Fiscal 2015 Compared with Fiscal 2014

Revenue in our Security product category was up 12%, or \$181 million, driven primarily by sales of Sourcefire products and, to a lesser extent, by higher sales of our high-end firewall products within our network security product portfolio. This increase was partially offset by a slight decrease in revenue from our content security products due to lower sales of web and e-mail security products. We continue to increase the amount of deferred revenue and the proportion of recurring revenue related to our Security product category.

Other Products

The year-over-year increase in revenue in our Other Products category for fiscal 2016 was due to increased revenue from data and analytics offerings, from our cloud-related offerings and from our IoT products, driven by our Jasper acquisition. We experienced a year-over-year decrease in revenue in our Other Products category for fiscal 2015 due in large part to the decrease in sales of our other networking products.

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Service Revenue by Segment

The following table presents the breakdown of service revenue by segment (in millions, except percentages):

Years Ended	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollar	Variance in Percent	Variance in Dollar	Variance in Percent
Service revenue:							
Americas	\$7,732	\$7,394	\$7,150	\$338	4.6 %	\$244	3.4 %
Percentage of service revenue	64.4 %	64.8 %	65.2 %				
EMEA	2,623	2,466	2,351	157	6.4 %	115	4.9 %
Percentage of service revenue	21.9 %	21.6 %	21.4 %				
APJC	1,638	1,551	1,469	87	5.6 %	82	5.6 %
Percentage of service revenue	13.7 %	13.6 %	13.4 %				
Total	\$11,993	\$11,411	\$10,970	\$582	5.1 %	\$441	4.0 %

Fiscal 2016 Compared with Fiscal 2015

Service revenue grew 5%, which includes a \$200 million, or 2%, year-over-year increase as a result of the impact of the extra week in fiscal 2016. Service revenue had solid growth across all of our geographic segments. Worldwide technical support services revenue increased by 5% and worldwide advanced services revenue increased by 7%. Technical support services revenue increased across all geographic segments. Renewals and technical support service contract initiations associated with product sales provided an installed base of equipment being serviced which, in concert with new service offerings, were the primary factors driving the revenue increases. Advanced services revenue, which relates to professional services for specific customer network needs, grew across all geographic segments.

Fiscal 2015 Compared with Fiscal 2014

Service revenue increased across all of our geographic segments. Worldwide technical support services revenue increased by 3% and worldwide advanced services revenue increased by 6%, driven by growth in subscription revenues. Technical support services revenue experienced relatively balanced growth across all geographic segments. Renewals and technical support service contract initiations associated with product sales provided an installed base of equipment being serviced which, in concert with new service offerings, were the primary factors driving the revenue increases. Advanced services revenue grew across all geographic segments.

Gross Margin

The following table presents the gross margin for products and services (in millions, except percentages):

Years Ended	AMOUNT			PERCENTAGE		
	July 30, 2016	July 25, 2015	July 26, 2014	July 30, 2016	July 25, 2015	July 26, 2014
Gross margin:						
Product	\$23,093	\$22,373	\$20,531	62.0%	59.3 %	56.8 %
Service	7,867	7,308	7,238	65.6%	64.0 %	66.0 %
Total	\$30,960	\$29,681	\$27,769	62.9%	60.4 %	58.9 %

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Product Gross Margin

Fiscal 2016 Compared with Fiscal 2015

The following table summarizes the key factors that contributed to the change in product gross margin percentage from fiscal 2015 to fiscal 2016:

	Product Gross Margin Percentage	
Fiscal 2015	59.3	%
Productivity ⁽¹⁾	3.3	%
SP Video CPE Business impact	1.5	%
Amortization of purchased intangible assets	0.6	%
Rockstar patent portfolio charge	0.5	%
Product pricing	(2.2))%
Mix of products sold	(0.8))%
Supplier component remediation adjustment	(0.2))%
Fiscal 2016	62.0	%

⁽¹⁾ Productivity includes overall manufacturing-related costs, such as component costs, warranty expense, provision for inventory, freight, logistics, shipment volume, and other items not categorized elsewhere.

Product gross margin increased by 2.7 percentage points as compared with fiscal 2015. The increase in product gross margin was due in large part to productivity improvements, which were driven primarily by value engineering efforts; favorable component pricing; and continued operational efficiency in manufacturing operations. Value engineering is the process by which production costs are reduced through component redesign, board configuration, test processes, and transformation processes. Our product gross margin also benefited from the sale during the second quarter of fiscal 2016 of our lower margin SP Video CPE Business, lower amortization expense and impairment charges related to acquisition-related intangible assets, and a \$188 million charge to product cost of sales recorded in the first quarter of fiscal 2015 related to the Rockstar patent portfolio. The various factors contributing to the product gross margin increase were partially offset by unfavorable impacts from product pricing, which were driven by typical market factors and impacted each of our geographic segments and customer markets, an unfavorable mix of products sold and the lower supplier component remediation adjustment. The unfavorable mix of products sold was due to a negative mix impact from our Cisco Unified Computing System products, higher sales of Service Provider Video products (not including the CPE Business) and an unfavorable mix within Switching products.

Fiscal 2015 Compared with Fiscal 2014

The following table summarizes the key factors that contributed to the change in product gross margin percentage from fiscal 2014 to fiscal 2015:

	Product Gross Margin Percentage	
Fiscal 2014	56.8	%
Productivity ⁽¹⁾	2.8	%
Supplier component remediation charge/adjustment	2.2	%
Mix of products sold	0.3	%
Product pricing	(2.3))%
Rockstar patent portfolio charge	(0.5))%
Fiscal 2015	59.3	%

Product gross margin increased by 2.5 percentage points compared with fiscal 2014. The increase in product gross margin was due to productivity improvements, which were driven by value engineering efforts; favorable component pricing; continued operational efficiency in manufacturing operations and lower warranty expense. The increase was also due to the \$655 million charge to product cost of sales in fiscal 2014 related to the expected cost to remediate

issues with a supplier component in certain products sold in prior fiscal years and an associated \$164 million favorable adjustment recorded in fiscal 2015.

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Additionally, gross margin increased due to the mix of products sold. The favorable product mix impact was due to revenue decreases from our relatively lower margin Service Provider Video products and a revenue increase from certain of our higher margin core products, partially offset by increased revenue from our relatively lower margin Cisco Unified Computing System products. The various factors contributing to the product gross margin increase were partially offset by unfavorable impacts from product pricing, which were driven by typical market factors and impacted each of our geographic segments and customer markets, as well as the unfavorable impact of a \$188 million charge to product cost of sales recorded in fiscal 2015 related to the Rockstar patent portfolio, see Note 4(b) to the Consolidated Financial Statements.

Service Gross Margin**Fiscal 2016 Compared with Fiscal 2015**

Service gross margin percentage increased by 1.6 percentage points, as compared with fiscal 2015, due to higher sales volume and decreased headcount-related costs. These benefits to gross margin were partially offset by increased partner delivery costs and increased outside services costs.

Our service gross margin normally experiences some fluctuations due to various factors such as the timing of contract initiations in our renewals, our strategic investments in headcount, and the resources we deploy to support the overall service business. Other factors include the mix of service offerings, as the gross margin from our advanced services is typically lower than the gross margin from technical support services.

Fiscal 2015 Compared with Fiscal 2014

Service gross margin percentage decreased by 2.0 percentage points for fiscal 2015, as compared with fiscal 2014, driven by increased cost impacts such as partner delivery costs, headcount-related costs and outside services.

Headcount-related costs increased due to continued investments in security and cloud managed services and higher variable compensation expense. These cost impacts were partially offset by the resulting benefit to gross margin of higher sales volume in both advanced services and technical support services.

Gross Margin by Segment

The following table presents the total gross margin for each segment (in millions, except percentages):

Years Ended	AMOUNT			PERCENTAGE		
	July 30, 2016	July 25, 2015	July 26, 2014	July 30, 2016	July 25, 2015	July 26, 2014
Gross margin:						
Americas	\$19,006	\$18,670	\$17,379	64.6%	63.0 %	62.6 %
EMEA	7,976	7,705	7,700	64.9%	62.5 %	64.1 %
APJC	4,622	4,307	4,252	61.2%	60.0 %	57.8 %
Segment total	31,604	30,682	29,331	64.2%	62.4 %	62.2 %
Unallocated corporate items ⁽¹⁾	(644)	(1,001)	(1,562)			
Total	\$30,960	\$29,681	\$27,769	62.9%	60.4 %	58.9 %

⁽¹⁾ The unallocated corporate items for the years presented include the effects of amortization and impairments of acquisition-related intangible assets, share-based compensation expense, significant litigation and other contingencies, charges related to asset impairments and restructurings, and certain other charges. We do not allocate these items to the gross margin for each segment because management does not include such information in measuring the performance of the operating segments.

Fiscal 2016 Compared with Fiscal 2015

The Americas segment experienced a gross margin percentage increase due primarily to the sale of the lower margin SP Video CPE Business. In this geographic segment, productivity improvements were substantially offset by unfavorable impacts from pricing and product mix. The unfavorable mix of products sold was due to increased revenue from our lower margin Cisco Unified Computing System products and an unfavorable mix within our NGN Routing products.

The gross margin percentage increase in our EMEA segment was due primarily to the impact of productivity improvements in this geographic segment and the sale of the SP Video CPE Business. Partially offsetting these

favorable impacts to gross margin were negative impacts from pricing and an unfavorable product mix. The unfavorable mix of products sold was due primarily to increased revenue from our lower margin Cisco Unified Computing System products. Higher service gross margin also contributed to the increase in the overall gross margin in this geographic segment.

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Our APJC segment gross margin percentage increased due to productivity improvements, partially offset by unfavorable impacts from pricing and mix. The mix impact was driven primarily by higher sales from our Service Provider Video products (not including the SP Video CPE Business) and unfavorable mix within our NGN Routing products.

The gross margin percentage for a particular segment may fluctuate, and period-to-period changes in such percentages may or may not be indicative of a trend for that segment.

Fiscal 2015 Compared with Fiscal 2014

We experienced a gross margin percentage increase in our Americas segment due to productivity improvements partially offset by unfavorable impacts from pricing. The product mix was flat in this geographic segment as the impact of decreased revenue from our relatively lower margin Service Provider Video products offset the increase in revenue from our relatively lower margin Cisco Unified Computing System products.

The gross margin percentage decrease in our EMEA segment was due primarily to unfavorable impacts from pricing and mix. The unfavorable mix impact was driven by an increase in revenue from our relatively lower margin Cisco Unified Computing System products. Lower service gross margin also contributed to the decrease in the overall gross margin in this segment.

The APJC segment gross margin percentage increased due to productivity improvements and a favorable mix impact, partially offset by unfavorable impacts from pricing. The favorable mix impact was driven by a decrease in revenue from our relatively lower margin Service Provider Video products and an increase in revenue from certain of our higher margin core products.

Research and Development (“R&D”), Sales and Marketing, and General and Administrative (“G&A”) Expenses

R&D, sales and marketing, and G&A expenses are summarized in the following table (in millions, except percentages):

	Years Ended			2016 vs. 2015		2015 vs. 2014	
	July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Percent	Variance in Dollars	Variance in Percent
Research and development	\$6,296	\$6,207	\$6,294	\$89	1.4 %	\$(87)	(1.4) %
Percentage of revenue	12.8 %	12.6 %	13.4 %				
Sales and marketing	9,619	9,821	9,503	(202)	(2.1) %	318	3.3 %
Percentage of revenue	19.5 %	20.0 %	20.2 %				
General and administrative	1,814	2,040	1,934	(226)	(11.1) %	106	5.5 %
Percentage of revenue	3.7 %	4.1 %	4.1 %				
Total	\$17,729	\$18,068	\$17,731	\$(339)	(1.9) %	\$337	1.9 %
Percentage of revenue	36.0 %	36.8 %	37.6 %				

Fiscal 2016 had an extra week compared with fiscal 2015. We estimate that the extra week contributed approximately \$116 million in total operating expenses (not including share-based compensation expense discussed below).

R&D ExpensesFiscal 2016 Compared with Fiscal 2015

R&D expenses increased for fiscal 2016, as compared with fiscal 2015, primarily due to higher headcount-related expenses attributable in part to the impact of the extra week in fiscal 2016 and, to a lesser extent, higher share-based compensation expense. These increases were partially offset by lower acquisition-related costs and lower discretionary spending.

We continue to invest in R&D in order to bring a broad range of products to market in a timely fashion. If we believe that we are unable to enter a particular market in a timely manner with internally developed products, we may purchase or license technology from other businesses, or we may partner with or acquire businesses as an alternative to internal R&D.

Fiscal 2015 Compared with Fiscal 2014

The decrease in R&D expenses for fiscal 2015, as compared with fiscal 2014, was primarily due to higher compensation expense recorded in fiscal 2014 in connection with our acquisition of the remaining interest in Insieme Networks, Inc. (“Insieme”). See Note 12 to the Consolidated Financial Statements. Efficiencies arising from our restructuring action announced in August 2014 also contributed to the decrease. These decreases were partially offset by higher contracted services and higher share-based compensation expense.

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Sales and Marketing Expenses

Fiscal 2016 Compared with Fiscal 2015

Sales and marketing expenses decreased for fiscal 2016, as compared with fiscal 2015, due to lower discretionary spending and lower headcount-related expenses. The aforementioned items benefited from foreign exchange rates during fiscal 2016. Lower share-based compensation expense also contributed to the decrease.

Fiscal 2015 Compared with Fiscal 2014

Sales and marketing expenses increased for fiscal 2015, as compared with fiscal 2014, due to higher headcount-related expenses, driven by increased variable compensation expense and higher discretionary spending, partially offset by lower compensation expense from acquisitions.

G&A Expenses

Fiscal 2016 Compared with Fiscal 2015

G&A expenses decreased in fiscal 2016, as compared with fiscal 2015, primarily due to the \$253 million pre-tax gain from the sale of our SP Video CPE Business and, to a lesser extent, lower contracted services and lower share-based compensation expense, partially offset by higher headcount-related expenses. The extra week in fiscal 2016 contributed to the increased headcount-related expenses.

Fiscal 2015 Compared with Fiscal 2014

G&A expenses increased in fiscal 2015, as compared with fiscal 2014, primarily due to increased variable compensation expense as a result of our financial performance, higher share-based compensation expense and the timing of corporate-level expenses. Corporate-level expenses, which tend to vary from period to period, included operational infrastructure activities such as IT project implementations, which included investments in our global data center infrastructure, and investments related to operational and financial systems.

Effect of Foreign Currency

In fiscal 2016, foreign currency fluctuations, net of hedging, decreased the combined R&D, sales and marketing, and G&A expenses by approximately \$567 million, or 3.1%, compared with fiscal 2015. In fiscal 2015, foreign currency fluctuations, net of hedging, decreased the combined R&D, sales and marketing, and G&A expenses by approximately \$278 million, or 1.6%, compared with fiscal 2014.

Headcount

Fiscal 2016 Compared with Fiscal 2015

Our headcount increased by approximately 1,800 employees in fiscal 2016 due to headcount additions from targeted hiring in key growth areas in engineering and services, and due also to headcount additions from our recent acquisitions. These headcount additions were partially offset by headcount reductions from our restructuring plan announced in August 2014 and from the sale of the SP Video CPE Business.

Fiscal 2015 Compared with Fiscal 2014

The decrease in headcount of approximately 2,200 employees in fiscal 2015 was due to headcount reductions from attrition and from our restructuring plan announced in August 2014. These headcount reductions were partially offset by headcount additions from targeted hiring in engineering and services, and also by headcount additions from our recent acquisitions.

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Share-Based Compensation Expense

The following table presents share-based compensation expense (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Cost of sales—product	\$ 70	\$ 50	\$ 45
Cost of sales—service	142	157	150
Share-based compensation expense in cost of sales	212	207	195
Research and development	470	448	411
Sales and marketing	545	559	549
General and administrative	205	228	198
Restructuring and other charges	26	(2)	(5)
Share-based compensation expense in operating expenses	1,246	1,233	1,153
Total share-based compensation expense	\$ 1,458	\$ 1,440	\$ 1,348

The increase in share-based compensation expense for fiscal 2016, as compared with fiscal 2015, was due primarily to the timing of RSU grants and the impact of the extra week in fiscal 2016, partially offset by lower net expense associated with accelerated and modified awards.

The increase in share-based compensation expense for fiscal 2015, as compared with fiscal 2014, was due primarily to higher expense associated with performance-based restricted stock units and charges associated with severance arrangements with certain executives, partially offset by lower expense related to equity awards assumed with respect to our recent acquisitions.

Amortization of Purchased Intangible Assets

The following table presents the amortization of purchased intangible assets (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Amortization of purchased intangible assets:			
Cost of sales	\$ 577	\$ 814	\$ 742
Operating expenses	303	359	275
Total	\$ 880	\$ 1,173	\$ 1,017

Amortization of purchased intangible assets decreased in fiscal 2016, as compared with fiscal 2015, due to certain purchased intangible assets having become fully amortized or impaired, partially offset by amortization of purchased intangible assets from our recent acquisitions. Lower impairment charges in fiscal 2016 also contributed to the decrease.

Amortization of purchased intangible assets increased in fiscal 2015 as compared with fiscal 2014, primarily due to the impairment charges of approximately \$175 million recorded in fiscal 2015. The impairment charges were primarily due to declines in estimated fair value resulting from reductions in or the elimination of expected future cash flows associated with certain of our technology and IPR&D intangible assets.

Restructuring and Other Charges

In connection with a restructuring action announced in August 2014, we incurred restructuring and other charges of \$267 million and \$489 million during fiscal 2016 and 2015, respectively. These charges were related primarily to severance and other one-time termination benefits and other associated costs. We completed this plan at the end of fiscal 2016.

In connection with a restructuring action announced in August 2013, we incurred restructuring and other charges of approximately \$418 million during fiscal 2014, which were related primarily to employee severance charges for employees impacted by our workforce reduction under this plan. We completed this plan at the end of fiscal 2014. In August 2016, we announced a restructuring plan that will impact up to 5,500 employees, representing approximately 7% of our global workforce. We began taking action under this plan in the first quarter of fiscal 2017. We currently estimate that we will recognize pre-tax charges in an amount of up to \$700 million consisting of severance and other one-time termination benefits, and other associated costs. We expect that approximately \$325 million to \$400 million of these charges will be recognized during the first quarter of fiscal 2017, with the remaining

amount to be recognized during the rest of the fiscal 2017. We expect to reinvest substantially all of the cost savings from the restructuring actions in our key priority areas such as security, IoT, collaboration, next generation data center and cloud. As a result, the overall cost savings from these restructuring actions are not expected to be material for future periods.

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Operating Income

The following table presents our operating income and our operating income as a percentage of revenue (in millions, except percentages):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Operating income	\$12,660	\$10,770	\$9,345
Operating income as a percentage of revenue	25.7 %	21.9 %	19.8 %

For fiscal 2016, as compared with fiscal 2015, operating income increased by 18%, and as a percentage of revenue operating income increased by 3.8 percentage points. The increase resulted from the following: a gross margin percentage increase, driven in part by the sale of the lower margin SP Video CPE Business during fiscal 2016; the \$253 million pre-tax gain from the sale of our SP Video CPE Business; and a decrease in restructuring and other charges related to the restructuring action announced in August 2014.

For fiscal 2015, as compared with fiscal 2014, operating income increased by 15%, and as a percentage of revenue operating income increased by 2.1 percentage points. The increase resulted from the following: an increase in revenue; a gross margin percentage increase, driven in part by the \$655 million supplier component remediation charge (or 1.4 percentage points of fiscal 2014 revenue) recorded in fiscal 2014; and higher compensation expense recorded in fiscal 2014 in connection with our acquisition of the remaining interest in Insieme.

Interest and Other Income (Loss), Net

Interest Income (Expense), Net The following table summarizes interest income and interest expense (in millions):

Years Ended	2016 vs. 2015		2015 vs. 2014		
July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Dollars	
Interest income	\$1,005	\$769	\$691	\$236	\$78
Interest expense	(676)	(566)	(564)	(110)	(2)
Interest income (expense), net	\$329	\$203	\$127	\$126	\$76

Fiscal 2016 Compared with Fiscal 2015

Interest income increased in fiscal 2016 as compared with fiscal 2015, driven by an increase in our portfolio of cash, cash equivalents, and fixed income investments as well as higher yields on our portfolio of cash and investments. The increase in interest expense in fiscal 2016 compared with fiscal 2015 was driven by higher average debt balances and the impact of higher effective interest rates on floating-rate senior notes and interest rate swaps associated with fixed-rate senior notes.

Fiscal 2015 Compared with Fiscal 2014

Interest income increased in fiscal 2015 as compared with fiscal 2014, driven by an increase in our portfolio of cash, cash equivalents, and fixed income investments. Interest expense in fiscal 2015 as compared with the prior fiscal year increased slightly, driven by additional interest expense due to the net increase in long-term debt in fiscal 2015.

Other Income (Loss), Net The components of other income (loss), net, are summarized as follows (in millions):

Years Ended	2016 vs. 2015		2015 vs. 2014		
July 30, 2016	July 25, 2015	July 26, 2014	Variance in Dollars	Variance in Dollars	
Gains (losses) on investments, net:					
Publicly traded equity securities	\$33	\$116	\$253	\$(83)	\$(137)
Fixed income securities	(34)	41	47	(75)	(6)
Total available-for-sale investments	(1)	157	300	(158)	(143)
Privately held companies	(35)	82	(60)	(117)	142

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Net gains (losses) on investments	(36)	239	240	(275)	(1)
Other gains (losses), net	(33)	(11)	3	(22)	(14)
Other income (loss), net	\$(69)	\$ 228	\$ 243	\$ (297)	\$ (15)

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Fiscal 2016 Compared with Fiscal 2015

The change in total net gains (losses) on available-for-sale investments in fiscal 2016, as compared with fiscal 2015, was primarily attributable to lower realized gains on publicly traded equity securities and net losses on fixed income securities in fiscal 2016 compared to net gains in fiscal 2015 as a result of market conditions and the timing of sales of these securities.

The change in net gains (losses) on investments in privately held companies in fiscal 2016, as compared with fiscal 2015, was primarily due to a gain of \$126 million related to the reorganization of our investment in VCE, which was recorded in fiscal 2015.

The change in other gains (losses), net in fiscal 2016, as compared with fiscal 2015, was driven by higher donation expenses and net unfavorable foreign exchange impacts, partially offset by higher gains from customer lease terminations.

Fiscal 2015 Compared with Fiscal 2014

The decrease in total net gains on available-for-sale investments in fiscal 2015 compared with fiscal 2014 was primarily attributable to lower gains on publicly traded equity securities in the current period as a result of market conditions and the timing of sales of these securities.

The change in net gains (losses) on investments in privately held companies for the fiscal 2015 as compared with fiscal 2014 was primarily due to a \$126 million gain recorded in fiscal 2015 related to the reorganization of our investments in VCE and lower losses related to this investment under the equity method. We ceased accounting for VCE under the equity method in October 2014. These favorable items were partially offset by higher impairment charges and lower realized gains from sales of various investments in privately held companies.

The change in other gains (losses), net in fiscal 2015 as compared with fiscal 2014 was driven by equity derivative impacts and higher donation expenses, partially offset by net favorable foreign exchange impacts in fiscal 2015.

Provision for Income Taxes

Our provision for income taxes is subject to volatility and could be adversely impacted by earnings being lower than anticipated in countries that have lower tax rates, higher than anticipated in countries that have higher tax rates, and expiration of or lapses in tax incentives. Our provision for income taxes does not include provisions for U.S. income taxes and foreign withholding taxes associated with the repatriation of undistributed earnings of certain foreign subsidiaries that we intend to reinvest indefinitely in our foreign subsidiaries. If these earnings were distributed from the foreign subsidiaries to the United States in the form of dividends or otherwise, or if the shares of the relevant foreign subsidiaries were sold or otherwise transferred, we would be subject to additional U.S. income taxes (subject to an adjustment for foreign tax credits) and foreign withholding 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.

Fiscal 2016 Compared with Fiscal 2015

The provision for income taxes resulted in an effective tax rate of 16.9% for fiscal 2016, compared with 19.8% for fiscal 2015. The net 2.9 percentage point decrease in the effective tax rates between fiscal years was primarily due to a non-recurring net tax benefit of \$367 million, or 2.8 percentage points, related to a tax settlement with the IRS in fiscal 2016.

For a full reconciliation of our effective tax rate to the U.S. federal statutory rate of 35% and for further explanation of our provision for income taxes, see Note 16 to the Consolidated Financial Statements.

Fiscal 2015 Compared with Fiscal 2014

The provision for income taxes resulted in an effective tax rate of 19.8% for fiscal 2015, compared with 19.2% for fiscal 2014. The net 0.6 percentage point increase in the effective tax rate between fiscal years was primarily due to a decrease in foreign income taxed at lower than U.S. rates, partially offset by an increase in U.S. federal R&D tax credit.

Table of Contents**LIQUIDITY AND CAPITAL RESOURCES**

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

Balance Sheet and Cash Flows

Cash and Cash Equivalents and Investments The following table summarizes our cash and cash equivalents and investments (in millions):

	July 30, 2016	July 25, 2015	Increase (Decrease)
Cash and cash equivalents	\$7,631	\$6,877	\$ 754
Fixed income securities	56,621	51,974	4,647
Publicly traded equity securities	1,504	1,565	(61)
Total	\$65,756	\$60,416	\$ 5,340

The net increase in cash and cash equivalents and investments from fiscal 2015 to fiscal 2016 was primarily the result of cash provided by operating activities of \$13.6 billion, a net increase in debt of \$3.1 billion, proceeds from issuance of common stock of \$1.1 billion pursuant to employee stock incentive and purchase plans, and net proceeds from the sale of our SP Video CPE Business of \$0.4 billion. These sources of cash were partially offset by cash returned to shareholders in the form of cash dividends of \$4.8 billion and repurchase of common stock of \$3.9 billion under the stock repurchase program, net cash paid for acquisitions of \$3.2 billion and capital expenditures of \$1.1 billion.

Our total in cash and cash equivalents and investments held by various foreign subsidiaries was \$59.8 billion and \$53.4 billion as of July 30, 2016 and July 25, 2015, respectively. Under current tax laws and regulations, if these assets were to be distributed from the foreign subsidiaries to the United States in the form of dividends or otherwise, we would be subject to additional U.S. income taxes (subject to an adjustment for foreign tax credits) and foreign withholding taxes. The balance of cash and cash equivalents and investments available in the United States as of July 30, 2016 and July 25, 2015 was \$5.9 billion and \$7.0 billion, respectively.

We maintain an investment portfolio of various holdings, types, and maturities. We classify our investments as short-term investments based on their nature and their availability for use in current operations. We believe the overall credit quality of our portfolio is strong, with our cash equivalents and our fixed income investment portfolio consisting primarily of high quality investment-grade securities. We believe that our strong cash and cash equivalents and investments position allows us to use our cash resources for strategic investments to gain access to new technologies, for acquisitions, for customer financing activities, for working capital needs, and for the repurchase of shares of common stock and payment of dividends as discussed below.

Free Cash Flow and Capital Allocation As part of our capital allocation strategy, we intend to return a minimum of 50% of our free cash flow annually to our shareholders through cash dividends and repurchases of common stock.

We define free cash flow as net cash provided by operating activities less cash used to acquire property and equipment. The following table reconciles our net cash provided by operating activities to free cash flow (in millions):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Net cash provided by operating activities	\$13,570	\$12,552	\$12,332
Acquisition of property and equipment	(1,146)	(1,227)	(1,275)
Free cash flow	\$12,424	\$11,325	\$11,057

We expect that cash provided by operating activities may fluctuate in future periods as a result of a number of factors, including fluctuations in our operating results, the rate at which products are shipped during the quarter (which we refer to as shipment linearity), the timing and collection of accounts receivable and financing receivables, inventory and supply chain management, deferred revenue, excess tax benefits resulting from share-based compensation, and the timing and amount of tax and other payments. For additional discussion, see “Part I, Item 1A. Risk Factors” in this report.

We consider free cash flow to be a liquidity measure that provides useful information to management and investors because of our intent to return a stated percentage of free cash flow to shareholders in the form of dividends and stock

repurchases. We further regard free cash flow as a useful measure because it reflects cash that can be used to, among other things, invest in our business, make strategic acquisitions, repurchase common stock, and pay dividends on our common stock, after deducting capital investments. A limitation of the utility of free cash flow as a measure of financial performance and liquidity is that the free cash flow does not represent the total increase or decrease in our cash balance for the period. In addition, we have other required uses of cash, including

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repaying the principal of our outstanding indebtedness. Free cash flow is not a measure calculated in accordance with U.S. generally accepted accounting principles and should not be regarded in isolation or as an alternative for net income provided by operating activities or any other measure calculated in accordance with such principles, and other companies may calculate free cash flow in a different manner than we do.

The following table summarizes the dividends paid and stock repurchases (in millions, except per-share amounts):

Years Ended	DIVIDENDS		STOCK REPURCHASE PROGRAM		TOTAL	
	Per Share	Amount	Shares	Weighted-Average Price per Share	Amount	Amount
July 30, 2016	\$0.94	\$ 4,750	148	\$ 26.45	\$ 3,918	\$ 8,668
July 25, 2015	\$0.80	\$ 4,086	155	\$ 27.22	\$ 4,234	\$ 8,320
July 26, 2014	\$0.72	\$ 3,758	420	\$ 22.71	\$ 9,539	\$ 13,297

Any future dividends are subject to the approval of our Board of Directors.

Accounts Receivable, Net The following table summarizes our accounts receivable, net (in millions), and DSO:

	July 30, July 25, Increase		
	2016	2015	(Decrease)
Accounts receivable, net	\$ 5,847	\$ 5,344	\$ 503
DSO	42	38	4

Our accounts receivable net, as of July 30, 2016 increased by approximately 9% compared with the end of fiscal 2015. Our DSO as of July 30, 2016 was higher by four days as compared with the end of fiscal 2015, as there was a relatively higher proportion of service billings in the latter part of the fourth quarter in fiscal 2016.

Inventory Supply Chain The following table summarizes our inventories and purchase commitments with contract manufacturers and suppliers (in millions, except annualized inventory turns):

	July 30, July 25, Increase		
	2016	2015	(Decrease)
Inventories	\$ 1,217	\$ 1,627	\$ (410)
Annualized inventory turns	14.6	12.1	2.5
Purchase commitments with contract manufacturers and suppliers	\$ 3,896	\$ 4,078	\$ (182)

Inventory as of July 30, 2016 decreased by 25% from our inventory balance at the end of fiscal 2015, and for the same period purchase commitments with contract manufacturers and suppliers decreased by approximately 4%. On a combined basis, inventories and purchase commitments with contract manufacturers and suppliers decreased by 10% compared with the end of fiscal 2015. The decrease in inventory and purchase commitments with contract manufacturers and suppliers was due in part to the sale of the SP Video CPE Business. We believe our inventory and purchase commitments levels are in line with our current demand forecasts.

Our finished goods consist of distributor inventory and deferred cost of sales and manufactured finished goods.

Distributor inventory and deferred cost of sales are related to unrecognized revenue on shipments to distributors and retail partners as well as shipments to customers. Manufactured finished goods consist primarily of build-to-order and build-to-stock products.

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 manage manufacturing lead times and help ensure adequate component supply, we enter into agreements with contract manufacturers and suppliers that allow them to procure inventory based upon criteria as defined by us or that establish the parameters defining our requirements and our commitment to securing manufacturing capacity. A significant portion of our reported purchase commitments arising from these agreements are firm, noncancelable, and unconditional commitments. 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. Our purchase commitments are for short-term product manufacturing requirements as well as for commitments to suppliers to secure manufacturing capacity.

Inventory and supply chain management remain areas of focus as we balance the need to maintain supply chain flexibility to help ensure competitive lead times with the risk of inventory obsolescence because of rapidly changing

technology and customer requirements. We believe the amount of our inventory and purchase commitments is appropriate for our revenue levels.

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Financing Receivables and Guarantees We measure our net balance sheet exposure position related to our financing receivables and financing guarantees by reducing the total of gross financing receivables and financing guarantees by the associated allowances for credit loss and deferred revenue. As of July 30, 2016, our net balance sheet exposure position related to financing receivables and financing guarantees was as follows (in millions):

July 30, 2016	FINANCING RECEIVABLES				FINANCING GUARANTEES		Total	TOTAL
	Lease Receivables	Loan Receivables	Financed Service Contracts and Other	Total	Channel Partner	End-User Customers		
Financing receivables and guarantees	\$3,474	\$ 2,135	\$ 3,370	\$8,979	\$281	\$ 96	\$377	\$9,356
Unearned income	(174)	—	—	(174)	—	—	—	(174)
Allowance for credit loss	(230)	(97)	(48)	(375)	—	—	—	(375)
Deferred revenue	(6)	(15)	(1,716)	(1,737)	(85)	(76)	(161)	(1,898)
Net balance sheet exposure	\$3,064	\$ 2,023	\$ 1,606	\$6,693	\$196	\$ 20	\$216	\$6,909

Financing Receivables Financing receivables less unearned income increased by 1% compared with the end of fiscal 2015. The change was primarily due to a 21% increase in loan receivables partially offset by a 6% decrease in financed service contracts and other and a 3% decrease in lease receivables. We provide financing to certain end-user customers and channel partners to enable sales of our products, services, and networking solutions. These financing arrangements include leases, financed service contracts, and loans. Arrangements related to leases are generally collateralized by a security interest in the underlying assets. Lease receivables include sales-type and direct-financing leases. We also provide certain qualified customers financing for long-term service contracts, which primarily relate to technical support services. 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. We expect to continue to expand the use of our financing programs in the near term.

Financing Guarantees In the normal course of business, third parties may provide financing arrangements to our customers and channel partners under financing programs. The financing arrangements to customers provided by third parties are related to leases and loans and typically have terms of up to three years. In some cases, we provide guarantees to third parties for these lease and loan arrangements. The financing arrangements to channel partners consist of revolving short-term financing provided by third parties, generally with payment terms ranging from 60 to 90 days. In certain instances, these financing arrangements result in a transfer of our receivables to the third party. The receivables are derecognized upon transfer, as these transfers qualify as true sales, and we receive payments for the receivables from the third party based on our standard payment terms. The volume of channel partner financing was \$26.9 billion, \$25.9 billion, and \$24.6 billion in fiscal 2016, 2015, and 2014, respectively. These financing arrangements facilitate the working capital requirements of the channel partners, and in some cases, we guarantee a portion of these arrangements. The balance of the channel partner financing subject to guarantees was \$1.1 billion and \$1.2 billion as of July 30, 2016 and July 25, 2015, respectively. We could be called upon to make payments under these guarantees in the event of nonpayment by the channel partners or end-user customers. Historically, our payments under these arrangements have been immaterial. Where we provide a guarantee, we defer the revenue associated with the channel partner and end-user financing arrangement in accordance with revenue recognition policies, or we record a liability for the fair value of the guarantees. In either case, the deferred revenue is recognized as revenue when the guarantee is removed.

Deferred Revenue Related to Financing Receivables and Guarantees The majority of the deferred revenue in the preceding table is related to financed service contracts. The majority of the revenue related to financed service contracts, which primarily relates to technical support services, is deferred as the revenue related to financed service contracts is recognized ratably over the period during which the related services are to be performed. A portion of the revenue related to lease and loan receivables is also deferred and included in deferred product revenue based on revenue recognition criteria not currently having been met.

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Borrowings

Senior Notes The following table summarizes the principal amount of our senior notes (in millions):

	Maturity Date	July 30, 2016	July 25, 2015
Senior notes:			
Floating-rate notes:			
Three-month LIBOR plus 0.05%	September 3, 2015	\$—	\$850
Three-month LIBOR plus 0.28%	March 3, 2017	1,000	1,000
Three-month LIBOR plus 0.60%	February 21, 2018 (1)	1,000	—
Three-month LIBOR plus 0.31%	June 15, 2018	900	900
Three-month LIBOR plus 0.50%	March 1, 2019	500	500
Fixed-rate notes:			
5.50%	February 22, 2016	—	3,000
1.10%	March 3, 2017	2,400	2,400
3.15%	March 14, 2017	750	750
1.40%	February 28, 2018 (1)	1,250	—
1.65%	June 15, 2018	1,600	1,600
4.95%	February 15, 2019	2,000	2,000
1.60%	February 28, 2019 (1)	1,000	—
2.125%	March 1, 2019	1,750	1,750
4.45%	January 15, 2020	2,500	2,500
2.45%	June 15, 2020	1,500	1,500
2.20%	February 28, 2021 (1)	2,500	—
2.90%	March 4, 2021	500	500
3.00%	June 15, 2022	500	500
2.60%	February 28, 2023 (1)	500	—
3.625%	March 4, 2024	1,000	1,000
3.50%	June 15, 2025	500	500
2.95%	February 28, 2026 (1)	750	—
5.90%	February 15, 2039	2,000	2,000
5.50%	January 15, 2040	2,000	2,000
Total		\$28,400	\$25,250

(1) In February 2016, we issued senior notes with an aggregate principal amount of \$7.0 billion.

Interest is payable semiannually on each class of the senior fixed-rate notes, each of which is redeemable by us at any time, subject to a make-whole premium. Interest is payable quarterly on the floating-rate notes. We were in compliance with all debt covenants as of July 30, 2016.

We repaid the fixed-rate notes (5.50%) due on February 22, 2016 for an aggregate principal amount of \$3.0 billion upon maturity.

We repaid the floating-rate notes due on September 3, 2015 for an aggregate principal amount of \$850 million upon maturity.

Other Debt Other debt as of July 30, 2016 and July 25, 2015 includes secured borrowings associated with customer financing arrangements. The amount of borrowings outstanding under these arrangements was \$1 million and \$4 million as of July 30, 2016 and July 25, 2015, respectively.

Commercial Paper We established a short-term debt financing program of up to \$3.0 billion through the issuance of commercial paper notes. We use the proceeds from the issuance of commercial paper notes for general corporate purposes. We had no commercial paper notes outstanding as of each of July 30, 2016 and July 25, 2015.

Credit Facility On May 15, 2015, we entered into a credit agreement with certain institutional lenders that provides for a \$3.0 billion unsecured revolving credit facility that is scheduled to expire on May 15, 2020. Any advances under the credit agreement will accrue interest at rates that are equal to, based on certain conditions, either (i) the highest of

(a) the Federal Funds rate plus 0.50%, (b) Bank of America's "prime rate" as announced from time to time, or (c) LIBOR, or a comparable or successor rate that is approved by the Administrative Agent ("Eurocurrency Rate"), for an interest period of one month plus 1.00%, or (ii) the Eurocurrency Rate, plus a margin that is based on our senior debt credit ratings as published by Standard & Poor's Financial

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Services, LLC and Moody's Investors Service, Inc., provided that in no event will the Eurocurrency Rate be less than zero. The credit agreement requires that we comply with certain covenants, including that it maintains an interest coverage ratio as defined in the agreement.

We may also, upon the agreement of either the then-existing lenders or additional lenders not currently parties to the agreement, increase the commitments under the credit facility by up to an additional \$2.0 billion and/or extend the expiration date of the credit facility up to May 15, 2022. We were in compliance with the required interest coverage ratio and the other covenants, and we had not borrowed any funds under the credit facility.

Deferred Revenue The following table presents the breakdown of deferred revenue (in millions):

	July 30, 2016	July 25, 2015	Increase (Decrease)
Service	\$ 10,621	\$ 9,757	\$ 864
Product	5,851	5,426	425
Total	\$ 16,472	\$ 15,183	\$ 1,289

Reported as:

Current	\$ 10,155	\$ 9,824	\$ 331
Noncurrent	6,317	5,359	958
Total	\$ 16,472	\$ 15,183	\$ 1,289

Total deferred revenue increased 8% in fiscal 2016. Deferred service revenue increased 9% driven by the timing of multiyear arrangements, an increase in customers paying technical support service contracts over time and the impact of ongoing amortization of deferred service revenue. Deferred product revenue increased 8% primarily due to increased deferrals related to subscription and software revenue arrangements, partially offset by lower deferred revenue related to two-tier distributors. The product categories of Collaboration, Security, and Wireless were the key contributors to the increase in deferred product revenue. The portion of deferred product revenue related to recurring software and subscriptions increased 33% including the portion related to our Security products which increased 29% and our Collaboration products which increased 13%.

Contractual Obligations

The impact of contractual obligations on our liquidity and capital resources in future periods should be analyzed in conjunction with the factors that impact our cash flows from operations discussed previously. In addition, we plan for and measure our liquidity and capital resources through an annual budgeting process. The following table summarizes our contractual obligations at July 30, 2016 (in millions):

July 30, 2016	PAYMENTS DUE BY PERIOD				
	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
Operating leases	\$ 1,159	\$ 363	\$ 446	\$ 190	\$ 160
Purchase commitments with contract manufacturers and suppliers	3,896	3,896	—	—	—
Other purchase obligations	2,010	726	712	523	49
Senior notes	28,400	4,150	10,000	7,000	7,250
Other long-term liabilities	1,153	—	182	127	844
Total by period	\$ 36,618	\$ 9,135	\$ 11,340	\$ 7,840	\$ 8,303
Other long-term liabilities (uncertainty in the timing of future payments)	1,203				
Total	\$ 37,821				

Operating Leases For more information on our operating leases, see Note 12 to the Consolidated Financial Statements.

Purchase Commitments with Contract Manufacturers and Suppliers We purchase components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. A significant portion of our reported estimated purchase commitments arising from these agreements are firm, noncancelable, and unconditional commitments. We record a liability for firm, noncancelable, and unconditional purchase commitments for quantities in excess of our future demand forecasts consistent with the valuation of our excess and obsolete

inventory. See further discussion in “Inventory Supply Chain.” As of July 30, 2016, the liability for these purchase commitments was \$159 million and is recorded in other current liabilities and is not included in the preceding table.

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Other Purchase Obligations Other purchase obligations represent an estimate of all contractual obligations in the ordinary course of business, other than operating leases and commitments with contract manufacturers and suppliers, for which we have not received the goods or services. Purchase orders are not included in the preceding table as they typically represent our authorization to purchase rather than binding contractual purchase obligations.

Long-Term Debt The amount of long-term debt in the preceding table represents the principal amount of the respective debt instruments. See Note 10 to the Consolidated Financial Statements.

Other Long-Term Liabilities Other long-term liabilities primarily include noncurrent income taxes payable, accrued liabilities for deferred compensation, noncurrent deferred tax liabilities, and certain other long-term liabilities. Due to the uncertainty in the timing of future payments, our noncurrent income taxes payable of approximately \$925 million and noncurrent deferred tax liabilities of \$278 million were presented as one aggregated amount in the total column on a separate line in the preceding table. Noncurrent income taxes payable include uncertain tax positions (see Note 16 to the Consolidated Financial Statements).

Other Commitments

In connection with our business combinations and asset purchases, we have agreed to pay certain additional amounts contingent upon the achievement of certain agreed-upon technology, development, product, or other milestones or the continued employment with us of certain employees of the acquired entities. See Note 12 to the Consolidated Financial Statements.

Insieme Networks, Inc. In the third quarter of fiscal 2012, we made an investment in Insieme, an early stage company focused on research and development in the data center market. As set forth in the agreement between Cisco and Insieme, this investment included \$100 million of funding and a license to certain of our technology. Immediately prior to the call option exercise and acquisition described below, we owned approximately 83% of Insieme as a result of these investments and have consolidated the results of Insieme in our Consolidated Financial Statements. In connection with this investment, we entered into a put/call option agreement that provided us with the right to purchase the remaining interests in Insieme. In addition, the noncontrolling interest holders could require us to purchase their shares upon the occurrence of certain events.

During the first quarter of fiscal 2014, we exercised our call option and entered into an agreement to purchase the remaining interests in Insieme. The acquisition closed in the second quarter of fiscal 2014, at which time the former noncontrolling interest holders became eligible to receive up to two milestone payments, which will be determined using agreed-upon formulas based primarily on revenue for certain of Insieme's products. During fiscal 2016, 2015, and 2014, we recorded compensation expense of \$160 million, \$207 million and \$416 million, respectively, related to the fair value of the vested portion of amounts that were earned or expected to be earned by the former noncontrolling interest holders. Continued vesting will result in additional compensation expense in future periods. Based on the terms of the agreement, we have determined that the maximum amount that could be recorded as compensation expense by us is approximately \$836 million (which includes the \$783 million that has been expensed to date), net of forfeitures.

The former noncontrolling interest holders earned the maximum amount related to the first milestone payment and were paid approximately \$389 million for a portion of this amount during fiscal 2016. During the first quarter of fiscal 2017, we expect to pay approximately \$325 million pursuant to the second milestone payment and continued vesting of the first milestone payment.

Other Funding Commitments We also have certain funding commitments primarily related to our investments in privately held companies and venture funds, some of which are based on the achievement of certain agreed-upon milestones, and some of which are required to be funded on demand. The funding commitments were \$222 million as of July 30, 2016, compared with \$205 million as of July 25, 2015.

Off-Balance Sheet Arrangements

We consider our investments in unconsolidated variable interest entities to be off-balance sheet arrangements. In the ordinary course of business, we have investments in privately held companies and provide financing to certain customers. These privately held companies and customers may be considered to be variable interest entities. We evaluate on an ongoing basis our investments in these privately held companies and customer financings, and we have determined that as of July 30, 2016 there were no material unconsolidated variable interest entities.

On an ongoing basis, we reassess our investments in privately held companies and customer financings to determine if they are variable interest entities and if we would be regarded as the primary beneficiary pursuant to the applicable accounting guidance. As a result of this ongoing assessment, we may be required to make additional disclosures or consolidate these entities. Because we may not control these entities, we may not have the ability to influence these events.

We provide financing guarantees, which are generally for various third-party financing arrangements extended to our channel partners and end-user customers. We could be called upon to make payments under these guarantees in the event of nonpayment by the channel partners or end-user customers. See the previous discussion of these financing guarantees under “Financing Receivables and Guarantees.”

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Securities Lending

We periodically engage in securities lending activities with certain of our available-for-sale investments. These transactions are accounted for as a secured lending of the securities, and the securities are typically loaned only on an overnight basis. The average daily balance of securities lending for fiscal 2016 and 2015 was \$1.0 billion and \$0.4 billion, respectively. We require collateral equal to at least 102% of the fair market value of the loaned security and that the collateral be in the form of cash or liquid, high-quality assets. We engage in these secured lending transactions only with highly creditworthy counterparties, and the associated portfolio custodian has agreed to indemnify us against collateral losses. As of July 30, 2016 and July 25, 2015, we had no outstanding securities lending transactions. We believe these arrangements do not present a material risk or impact to our liquidity requirements.

Liquidity and Capital Resource Requirements

Based on past performance and current expectations, we believe our cash and cash equivalents, investments, cash generated from operations, and ability to access capital markets and committed credit lines will satisfy, through at least the next 12 months, our liquidity requirements, both in total and domestically, including the following: working capital needs, capital expenditures, investment requirements, stock repurchases, cash dividends, contractual obligations, commitments, principal and interest payments on debt, future customer financings, and other liquidity requirements associated with our operations. There are no other transactions, arrangements, or relationships with unconsolidated entities or other persons that are reasonably likely to materially affect the liquidity and the availability of, as well as our requirements for, capital resources.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our financial position is exposed to a variety of risks, including interest rate risk, equity price risk, and foreign currency exchange risk.

Interest Rate Risk

Fixed Income Securities We maintain an investment portfolio of various holdings, types, and maturities. Our primary objective for holding fixed income securities is to achieve an appropriate investment return consistent with preserving principal and managing risk. At any time, a sharp rise in market interest rates could have a material adverse impact on the fair value of our fixed income investment portfolio. Conversely, declines in interest rates, including the impact from lower credit spreads, could have a material adverse impact on interest income for our investment portfolio. We may utilize derivative instruments designated as hedging instruments to achieve our investment objectives. We had no outstanding hedging instruments for our fixed income securities as of July 30, 2016. Our fixed income investments are held for purposes other than trading. Our fixed income investments are not leveraged as of July 30, 2016. We monitor our interest rate and credit risks, including our credit exposures to specific rating categories and to individual issuers. We believe the overall credit quality of our portfolio is strong.

The following tables present the hypothetical fair values of our fixed income securities, including the hedging effects when applicable, as a result of selected potential market decreases and increases in interest rates. The market changes reflect immediate hypothetical parallel shifts in the yield curve of plus or minus 50 basis points (“BPS”), plus 100 BPS, and plus 150 BPS. Due to the low interest rate environment at the end of each of fiscal 2016 and fiscal 2015, we did not believe a parallel shift of minus 100 BPS or minus 150 BPS was relevant. The hypothetical fair values as of July 30, 2016 and July 25, 2015 are as follows (in millions):

	VALUATION OF SECURITIES GIVEN AN INTEREST RATE DECREASE OF X BASIS POINTS			FAIR VALUE AS OF JULY 30, 2016	VALUATION OF SECURITIES GIVEN AN INTEREST RATE INCREASE OF X BASIS POINTS		
	(150 BPS)	(100 BPS)	(50 BPS)		50 BPS	100 BPS	150 BPS
Fixed income securities	N/A	N/A	\$57,074	\$56,621	\$56,168	\$55,715	\$55,262
	VALUATION OF SECURITIES GIVEN AN INTEREST RATE DECREASE OF X BASIS POINTS			FAIR VALUE AS OF JULY 25, 2015	VALUATION OF SECURITIES GIVEN AN INTEREST RATE INCREASE OF X BASIS POINTS		
	(150 BPS)	(100 BPS)	(50 BPS)		50 BPS	100 BPS	150 BPS

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	(150 BPS)	(100 BPS)	(50 BPS)		50 BPS	100 BPS	150 BPS
Fixed income securities	N/A	N/A	\$52,366	\$51,974	\$51,582	\$51,189	\$50,797

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Financing Receivables As of July 30, 2016, our financing receivables had a carrying value of \$8.4 billion, compared with \$8.3 billion as of July 25, 2015. As of July 30, 2016, a hypothetical 50 BPS increase or decrease in market interest rates would change the fair value of our financing receivables by a decrease or increase of approximately \$0.1 billion, respectively.

Debt As of July 30, 2016, we had \$28.4 billion in principal amount of senior notes outstanding, which consisted of \$3.4 billion floating-rate notes and \$25.0 billion fixed-rate notes. The carrying amount of the senior notes was \$28.6 billion, and the related fair value based on market prices was \$30.9 billion. As of July 30, 2016, a hypothetical 50 BPS increase or decrease in market interest rates would change the fair value of the fixed-rate debt, excluding the \$9.9 billion of hedged debt, by a decrease or increase of approximately \$0.6 billion, respectively. However, this hypothetical change in interest rates would not impact the interest expense on the fixed-rate debt that is not hedged.

Equity Price Risk

The fair value of our equity investments in publicly traded companies is subject to market price volatility. We may hold equity securities for strategic purposes or to diversify our overall investment portfolio. Our equity portfolio consists of securities with characteristics that most closely match the Standard & Poor's 500 Index or NASDAQ Composite Index. These equity securities are held for purposes other than trading. To manage our exposure to changes in the fair value of certain equity securities, we may enter into equity derivatives designated as hedging instruments.

Publicly Traded Equity Securities The following tables present the hypothetical fair values of publicly traded equity securities as a result of selected potential decreases and increases in the price of each equity security in the portfolio, excluding hedged equity securities, if any. Potential fluctuations in the price of each equity security in the portfolio of plus or minus 10%, 20%, and 30% were selected based on potential near-term changes in those security prices. The hypothetical fair values as of July 30, 2016 and July 25, 2015 are as follows (in millions):

	VALUATION OF SECURITIES GIVEN AN X% DECREASE IN EACH STOCK'S PRICE				FAIR VALUE AS OF JULY 30, 2016	VALUATION OF SECURITIES GIVEN AN X% INCREASE IN EACH STOCK'S PRICE		
	(30)%	(20)%	(10)%			10%	20%	30%
Publicly traded equity securities	\$1,053	\$1,203	\$1,354	\$1,504		\$1,654	\$1,805	\$1,955
	VALUATION OF SECURITIES GIVEN AN X% DECREASE IN EACH STOCK'S PRICE				FAIR VALUE AS OF JULY 25, 2015	VALUATION OF SECURITIES GIVEN AN X% INCREASE IN EACH STOCK'S PRICE		
	(30)%	(20)%	(10)%			10%	20%	30%
Publicly traded equity securities	\$1,096	\$1,252	\$1,409	\$1,565		\$1,722	\$1,878	\$2,035

Investments in Privately Held Companies We have also invested in privately held companies. These investments are recorded in other assets in our Consolidated Balance Sheets and are accounted for using primarily either the cost or the equity method. As of July 30, 2016, the total carrying amount of our investments in privately held companies was \$1,003 million, compared with \$897 million at July 25, 2015. Some of the privately held companies in which we invested are in the startup or development stages. These investments are inherently risky because the markets for the technologies or products these companies are developing are typically in the early stages and may never materialize. We could lose our entire investment in these companies. Our evaluation of investments in privately held companies is based on the fundamentals of the businesses invested in, including, among other factors, the nature of their technologies and potential for financial return.

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Foreign Currency Exchange Risk

Our foreign exchange forward and option contracts outstanding at fiscal year-end are summarized in U.S. dollar equivalents as follows (in millions):

	July 30, 2016		July 25, 2015	
	Notional Amount	Fair Value	Notional Amount	Fair Value
Forward contracts:				
Purchased	\$3,079	\$ (41)	\$1,988	\$ (5)
Sold	\$651	\$ —	\$614	\$ 2
Option contracts:				
Purchased	\$688	\$ 4	\$422	\$ 6
Sold	\$620	\$ (10)	\$392	\$ (3)

We conduct business globally in numerous currencies. The direct effect of foreign currency fluctuations on revenue has not been material because our revenue is primarily denominated in U.S. dollars. However, if the U.S. dollar strengthens relative to other currencies, as was the case during fiscal 2016, such strengthening could have an indirect effect on our revenue to the extent it raises the cost of our products to non-U.S. customers and thereby reduces demand. A weaker U.S. dollar could have the opposite effect. However, the precise indirect effect of currency fluctuations is difficult to measure or predict because our revenue is influenced by many factors in addition to the impact of such currency fluctuations.

Approximately 70% of our operating expenses are U.S.-dollar denominated. In fiscal 2016, foreign currency fluctuations, net of hedging, decreased our combined R&D, sales and marketing, and G&A expenses by approximately \$567 million, or 3.1%, as compared with fiscal 2015. In fiscal 2015, foreign currency fluctuations, net of hedging, decreased our combined R&D, sales and marketing, and G&A expenses by approximately \$278 million, or 1.6%, as compared with fiscal 2014. To reduce variability in operating expenses and service cost of sales caused by non-U.S.-dollar denominated operating expenses and costs, we hedge certain forecasted foreign currency transactions with currency options and forward contracts. These hedging programs are not designed to provide foreign currency protection over long time horizons. In designing a specific hedging approach, we consider several factors, including offsetting exposures, significance of exposures, costs associated with entering into a particular hedge instrument, and potential effectiveness of the hedge. The gains and losses on foreign exchange contracts mitigate the effect of currency movements on our operating expenses and service cost of sales.

We also enter into foreign exchange forward and option contracts to reduce the short-term effects of foreign currency fluctuations on receivables and payables that are denominated in currencies other than the functional currencies of the entities. The market risks associated with these foreign currency receivables, investments, and payables relate primarily to variances from our forecasted foreign currency transactions and balances. We do not enter into foreign exchange forward or option contracts for speculative purposes.

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Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Cisco Systems, Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of comprehensive income, of cash flows and of equity present fairly, in all material respects, the financial position of Cisco Systems, Inc. and its subsidiaries at July 30, 2016 and July 25, 2015, and the results of their operations and their cash flows for each of the three years in the period ended July 30, 2016 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of July 30, 2016, based on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it classifies deferred tax assets and liabilities on the consolidated balance sheets in 2016.

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

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

/s/ PricewaterhouseCoopers LLP
San Jose, California
September 8, 2016

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Reports of Management

Statement of Management's Responsibility

Cisco's management has always assumed full accountability for maintaining compliance with our established financial accounting policies and for reporting our results with objectivity and the highest degree of integrity. It is critical for investors and other users of the Consolidated Financial Statements to have confidence that the financial information that we provide is timely, complete, relevant, and accurate. Management is responsible for the fair presentation of Cisco's Consolidated Financial Statements, prepared in accordance with accounting principles generally accepted in the United States of America, and has full responsibility for their integrity and accuracy.

Management, with oversight by Cisco's Board of Directors, has established and maintains a strong ethical climate so that our affairs are conducted to the highest standards of personal and corporate conduct. Management also has established an effective system of internal controls. Cisco's policies and practices reflect corporate governance initiatives that are compliant with the listing requirements of NASDAQ and the corporate governance requirements of the Sarbanes-Oxley Act of 2002.

We are committed to enhancing shareholder value and fully understand and embrace our fiduciary oversight responsibilities. We are dedicated to ensuring that our high standards of financial accounting and reporting, as well as our underlying system of internal controls, are maintained. Our culture demands integrity, and we have the highest confidence in our processes, our internal controls and our people, who are objective in their responsibilities and who operate under the highest level of ethical standards.

Management's Report on Internal Control over Financial Reporting

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

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

Management (with the participation of the principal executive officer and principal financial officer) conducted an evaluation of the effectiveness of Cisco's internal control over financial reporting based on the framework in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that Cisco's internal control over financial reporting was effective as of July 30, 2016. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the effectiveness of Cisco's internal control over financial reporting and has issued a report on Cisco's internal control over financial reporting, which is included in their report on the preceding page.

/S/ CHARLES H. ROBBINS

Charles H. Robbins

Chief Executive Officer and Director

September 8, 2016

/S/ KELLY A. KRAMER

Kelly A. Kramer

Executive Vice President and Chief Financial Officer

September 8, 2016

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CISCO SYSTEMS, INC.
 Consolidated Balance Sheets
 (in millions, except par value)

	July 30, 2016	July 25, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	\$7,631	\$6,877
Investments	58,125	53,539
Accounts receivable, net of allowance for doubtful accounts of \$249 at July 30, 2016 and \$302 at July 25, 2015	5,847	5,344
Inventories	1,217	1,627
Financing receivables, net	4,272	4,491
Other current assets	1,627	1,490
Total current assets	78,719	73,368
Property and equipment, net	3,506	3,332
Financing receivables, net	4,158	3,858
Goodwill	26,625	24,469
Purchased intangible assets, net	2,501	2,376
Deferred tax assets	4,299	4,454
Other assets	1,844	1,516
TOTAL ASSETS	\$121,652	\$113,373
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt	\$4,160	\$3,897
Accounts payable	1,056	1,104
Income taxes payable	517	62
Accrued compensation	2,951	3,049
Deferred revenue	10,155	9,824
Other current liabilities	6,072	5,476
Total current liabilities	24,911	23,412
Long-term debt	24,483	21,457
Income taxes payable	925	1,876
Deferred revenue	6,317	5,359
Other long-term liabilities	1,431	1,562
Total liabilities	58,067	53,666
Commitments and contingencies (Note 12)		
Equity:		
Cisco shareholders' equity:		
Preferred stock, no par value: 5 shares authorized; none issued and outstanding	—	—
Common stock and additional paid-in capital, \$0.001 par value: 20,000 shares authorized; 5,029 and 5,085 shares issued and outstanding at July 30, 2016 and July 25, 2015, respectively	44,516	43,592
Retained earnings	19,396	16,045
Accumulated other comprehensive income (loss)	(326)	) 61
Total Cisco shareholders' equity	63,586	59,698
Noncontrolling interests	(1)	) 9
Total equity	63,585	59,707
TOTAL LIABILITIES AND EQUITY	\$121,652	\$113,373
See Notes to Consolidated Financial Statements.		

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CISCO SYSTEMS, INC.

Consolidated Statements of Operations

(in millions, except per-share amounts)

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
REVENUE:			
Product	\$37,254	\$37,750	\$36,172
Service	11,993	11,411	10,970
Total revenue	49,247	49,161	47,142
COST OF SALES:			
Product	14,161	15,377	15,641
Service	4,126	4,103	3,732
Total cost of sales	18,287	19,480	19,373
GROSS MARGIN	30,960	29,681	27,769
OPERATING EXPENSES:			
Research and development	6,296	6,207	6,294
Sales and marketing	9,619	9,821	9,503
General and administrative	1,814	2,040	1,934
Amortization of purchased intangible assets	303	359	275
Restructuring and other charges	268	484	418
Total operating expenses	18,300	18,911	18,424
OPERATING INCOME	12,660	10,770	9,345
Interest income	1,005	769	691
Interest expense	(676)	(566)	(564)
Other income (loss), net	(69)	228	243
Interest and other income (loss), net	260	431	370
INCOME BEFORE PROVISION FOR INCOME TAXES	12,920	11,201	9,715
Provision for income taxes	2,181	2,220	1,862
NET INCOME	\$10,739	\$8,981	\$7,853
Net income per share:			
Basic	\$2.13	\$1.76	\$1.50
Diluted	\$2.11	\$1.75	\$1.49
Shares used in per-share calculation:			
Basic	5,053	5,104	5,234
Diluted	5,088	5,146	5,281
Cash dividends declared per common share	\$0.94	\$0.80	\$0.72
See Notes to Consolidated Financial Statements.			

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CISCO SYSTEMS, INC.

Consolidated Statements of Comprehensive Income
(in millions)

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Net income	\$10,739	\$8,981	\$7,853
Available-for-sale investments:			
Change in net unrealized gains, net of tax benefit (expense) of \$(49), \$14, and \$(146) for fiscal 2016, 2015, and 2014, respectively	92	(12)	233
Net (gains) losses reclassified into earnings, net of tax expense (benefit) of \$0, \$57, and \$111 for fiscal 2016, 2015, and 2014, respectively	1	(100)	(189)
	93	(112)	44
Cash flow hedging instruments:			
Change in unrealized gains and losses, net of tax benefit (expense) of \$7, \$19 and \$(6) for fiscal 2016, 2015, and 2014, respectively	(59)	(140)	42
Net (gains) losses reclassified into earnings, net of tax (benefit) expense of \$(4), \$(18), and \$6 for fiscal 2016, 2015 and 2014, respectively	16	136	(62)
	(43)	(4)	(20)
Net change in cumulative translation adjustment and actuarial gains and losses, net of tax benefit (expense) of \$(42), \$63, and \$(5) for fiscal 2016, 2015 and 2014, respectively	(447)	(498)	44
Other comprehensive income (loss)	(397)	(614)	68
Comprehensive income	10,342	8,367	7,921
Comprehensive (income) loss attributable to noncontrolling interests	10	(2)	1
Comprehensive income attributable to Cisco Systems, Inc.	\$10,352	\$8,365	\$7,922

See Notes to Consolidated Financial Statements.

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CISCO SYSTEMS, INC.

Consolidated Statements of Cash Flows
(in millions)

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Cash flows from operating activities:			
Net income	\$10,739	\$8,981	\$7,853
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization, and other	2,150	2,442	2,439
Share-based compensation expense	1,458	1,440	1,348
Provision for receivables	(9	) 134	79
Deferred income taxes	(194	) (23	) (678
Excess tax benefits from share-based compensation	(129	) (128	) (118
(Gains) losses on investments and other, net	(317	) (258	) (299
Change in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Accounts receivable	(404	) (413	) 340
Inventories	315	(116	) (109
Financing receivables	(150	) (634	) (119
Other assets	(37	) (370	) 26
Accounts payable	(65	) 87	(23
Income taxes, net	(300	) 53	191
Accrued compensation	(101	) 7	(42
Deferred revenue	1,219	1,275	659
Other liabilities	(605	) 75	785
Net cash provided by operating activities	13,570	12,552	12,332
Cash flows from investing activities:			
Purchases of investments	(46,760	) (43,975)	(36,317)
Proceeds from sales of investments	28,778	20,237	18,193
Proceeds from maturities of investments	14,115	15,293	15,660
Acquisition of businesses, net of cash and cash equivalents acquired	(3,161	) (326	) (2,989
Proceeds from business divestiture	372	—	—
Purchases of investments in privately held companies	(256	) (222	) (384
Return of investments in privately held companies	91	288	213
Acquisition of property and equipment	(1,146	) (1,227	) (1,275
Proceeds from sales of property and equipment	41	22	232
Other	(191	) (178	) 24
Net cash used in investing activities	(8,117	) (10,088)	(6,643
Cash flows from financing activities:			
Issuances of common stock	1,127	2,016	1,907
Repurchases of common stock - repurchase program	(3,909	) (4,324	) (9,413
Shares repurchased for tax withholdings on vesting of restricted stock units	(557	) (502	) (430
Short-term borrowings, original maturities less than 90 days, net	(4	) (4	) (2
Issuances of debt	6,978	4,981	7,981
Repayments of debt	(3,863	) (508	) (3,276
Excess tax benefits from share-based compensation	129	128	118
Dividends paid	(4,750	) (4,086	) (3,758
Other	150	(14	) (15
Net cash used in financing activities	(4,699) (2,313) (6,888
Net increase (decrease) in cash and cash equivalents	754	151	(1,199

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Cash and cash equivalents, beginning of fiscal year	6,877	6,726	7,925
Cash and cash equivalents, end of fiscal year	\$7,631	\$6,877	\$6,726
Supplemental cash flow information:			
Cash paid for interest	\$859	\$760	\$682
Cash paid for income taxes, net	\$2,675	\$2,190	\$2,349
See Notes to Consolidated Financial Statements.			

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CISCO SYSTEMS, INC.

Consolidated Statements of Equity

(in millions, except per-share amounts)

	Shares of Common Stock	Common Stock and Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Cisco Shareholders' Equity	Non-control- ling Interests	Total Equity
BALANCE AT JULY 27, 2013	5,389	\$ 42,297	\$ 16,215	\$ 608	\$ 59,120	\$ 8	\$ 59,128
Net income			7,853		7,853		7,853
Other comprehensive income (loss)				69	69	(1)	68
Issuance of common stock	156	1,907			1,907		1,907
Repurchase of common stock	(420)	(3,322)	(6,217)		(9,539)		(9,539)
Shares repurchased for tax withholdings on vesting of restricted stock units	(18)	(430)			(430)		(430)
Cash dividends declared (\$0.72 per common share)			(3,758)		(3,758)		(3,758)
Tax effects from employee stock incentive plans		35			35		35
Share-based compensation		1,348			1,348		1,348
Purchase acquisitions and other		49			49		49
BALANCE AT JULY 26, 2014	5,107	\$ 41,884	\$ 14,093	\$ 677	\$ 56,654	\$ 7	\$ 56,661
Net income			8,981		8,981		8,981
Other comprehensive income (loss)				(616)	(616)	2)	(614)
Issuance of common stock	153	2,016			2,016		2,016
Repurchase of common stock	(155)	(1,291)	(2,943)		(4,234)		(4,234)
Shares repurchased for tax withholdings on vesting of restricted stock units	(20)	(502)			(502)		(502)
Cash dividends declared (\$0.80 per common share)			(4,086)		(4,086)		(4,086)
Tax effects from employee stock incentive plans		41			41		41
Share-based compensation		1,440			1,440		1,440
Purchase acquisitions and other		4			4		4
BALANCE AT JULY 25, 2015	5,085	\$ 43,592	\$ 16,045	\$ 61	\$ 59,698	\$ 9	\$ 59,707
Net income			10,739		10,739		10,739
Other comprehensive income (loss)				(387)	(387)	(10)	(397)
Issuance of common stock	113	1,127			1,127		1,127
Repurchase of common stock	(148)	(1,280)	(2,638)		(3,918)		(3,918)
Shares repurchased for tax withholdings on vesting of restricted stock units	(21)	(557)			(557)		(557)
Cash dividends declared (\$0.94 per common share)			(4,750)		(4,750)		(4,750)
Tax effects from employee stock incentive plans		30			30		30
Share-based compensation		1,458			1,458		1,458

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Purchase acquisitions and other		146				146		146
BALANCE AT JULY 30, 2016	5,029	\$ 44,516	\$ 19,396	\$ (326)	\$ 63,586	\$ (1)	\$ 63,585	

Supplemental Information

In September 2001, the Company's Board of Directors authorized a stock repurchase program. As of July 30, 2016, the Company's Board of Directors had authorized an aggregate repurchase of up to \$112 billion of common stock under this program with no termination date. For additional information regarding stock repurchase, see Note 13 to the Consolidated Financial Statements. The stock repurchases since the inception of this program and the related impacts on Cisco shareholders' equity are summarized in the following table (in millions):

	Shares of Common Stock	Common and Additional	Retained	Total Cisco
	Stock	Paid-In Capital	Earnings	Shareholders' Equity
Repurchases of common stock under the repurchase program	4,591	\$ 23,895	\$ 72,702	\$ 96,597

See Notes to Consolidated Financial Statements.

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CISCO SYSTEMS, INC.

Notes to Consolidated Financial Statements

1. Basis of Presentation

The fiscal year for Cisco Systems, Inc. (the “Company” or “Cisco”) is the 52 or 53 weeks ending on the last Saturday in July. Fiscal 2016 was a 53-week fiscal year, and each of fiscal 2015 and fiscal 2014 were 52-week fiscal years. The Consolidated Financial Statements include the accounts of Cisco and its subsidiaries. All intercompany accounts and transactions have been eliminated. The Company conducts business globally and is primarily managed on a geographic basis in the following three geographic segments: the Americas; Europe, Middle East, and Africa (EMEA); and Asia Pacific, Japan, and China (APJC).

The Company consolidates its investments in a venture fund managed by SOFTBANK Corp. and its affiliates (“SOFTBANK”) as this is a variable interest entity and the Company is the primary beneficiary. The noncontrolling interests attributed to SOFTBANK are presented as a separate component from the Company’s equity in the equity section of the Consolidated Balance Sheets. SOFTBANK’s share of the earnings in the venture fund are not presented separately in the Consolidated Statements of Operations as these amounts are not material for any of the fiscal periods presented.

Certain reclassifications have been made to the amounts for prior years in order to conform to the current year’s presentation. The Company has evaluated subsequent events through the date that the financial statements were issued.

2. Summary of Significant Accounting Policies

(a) Cash and Cash Equivalents The Company considers all highly liquid investments purchased with an original or remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents are maintained with various financial institutions.

(b) Available-for-Sale Investments The Company classifies its investments in both fixed income securities and publicly traded equity securities as available-for-sale investments. Fixed income securities primarily consist of U.S. government securities, U.S. government agency securities, non-U.S. government and agency securities, corporate debt securities, and U.S. agency mortgage-backed securities. These available-for-sale investments are primarily held in the custody of a major financial institution. A specific identification method is used to determine the cost basis of fixed income and public equity securities sold. These investments are recorded in the Consolidated Balance Sheets at fair value. Unrealized gains and losses on these investments, to the extent the investments are unhedged, are included as a separate component of accumulated other comprehensive income (AOCI), net of tax. The Company classifies its investments as current based on the nature of the investments and their availability for use in current operations.

(c) Other-than-Temporary Impairments on Investments When the fair value of a debt security is less than its amortized cost, it is deemed impaired, and the Company will assess whether the impairment is other than temporary. An impairment is considered other than temporary if (i) the Company has the intent to sell the security, (ii) it is more likely than not that the Company will be required to sell the security before recovery of the entire amortized cost basis, or (iii) the Company does not expect to recover the entire amortized cost basis of the security. If impairment is considered other than temporary based on condition (i) or (ii) described earlier, the entire difference between the amortized cost and the fair value of the debt security is recognized in earnings. If an impairment is considered other than temporary based on condition (iii), the amount representing credit losses (defined as the difference between the present value of the cash flows expected to be collected and the amortized cost basis of the debt security) will be recognized in earnings, and the amount relating to all other factors will be recognized in other comprehensive income (OCI).

The Company recognizes an impairment charge on publicly traded equity securities when a decline in the fair value of a security below the respective cost basis is judged to be other than temporary. The Company considers various factors in determining whether a decline in the fair value of these investments is other than temporary, including the length of time and extent to which the fair value of the security has been less than the Company’s cost basis, the financial condition and near-term prospects of the issuer, and the Company’s intent and ability to hold the investment

for a period of time sufficient to allow for any anticipated recovery in market value.

Investments in privately held companies are included in other assets in the Consolidated Balance Sheets and are primarily accounted for using either the cost or equity method. The Company monitors these investments for impairments and makes reductions in carrying values if the Company determines that an impairment charge is required based primarily on the financial condition and near-term prospects of these companies.

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(d) Inventories Inventories are stated at the lower of cost or market. Cost is computed using standard cost, which approximates actual cost, on a first-in, first-out basis. The Company provides inventory write-downs based on excess and obsolete inventories determined primarily by future demand forecasts. The write-down is measured as the difference between the cost of the inventory and market based upon assumptions about future demand and charged to the provision for inventory, which is a component of cost of sales. At the point of the loss recognition, a new, lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in that newly established cost basis. In addition, the Company records a liability for firm, noncancelable, and unconditional purchase commitments with contract manufacturers and suppliers for quantities in excess of the Company's future demand forecasts consistent with its valuation of excess and obsolete inventory.

(e) Allowance for Doubtful Accounts The allowance for doubtful accounts is based on the Company's assessment of the collectibility of customer accounts. The Company regularly reviews the allowance by considering factors such as historical experience, credit quality, age of the accounts receivable balances, economic conditions that may affect a customer's ability to pay, and expected default frequency rates. Trade receivables are written off at the point when they are considered uncollectible.

(f) Financing Receivables and Guarantees The Company provides financing arrangements, including leases, financed service contracts, and loans, for certain qualified end-user customers to build, maintain, and upgrade their networks. Lease receivables primarily represent sales-type and direct-financing leases. Leases have on average a four-year term and are usually collateralized by a security interest in the underlying assets, while loan receivables generally have terms of up to three years. Financed service contracts typically have terms of one to three years and primarily relate to technical support services.

The Company determines the adequacy of its allowance for credit loss by assessing the risks and losses inherent in its financing receivables by portfolio segment. The portfolio segment is based on the types of financing offered by the Company to its customers: lease receivables, loan receivables, and financed service contracts and other.

The Company assesses the allowance for credit loss related to financing receivables on either an individual or a collective basis. The Company considers various factors in evaluating lease and loan receivables and the earned portion of financed service contracts for possible impairment on an individual basis. These factors include the Company's historical experience, credit quality and age of the receivable balances, and economic conditions that may affect a customer's ability to pay. When the evaluation indicates that it is probable that all amounts due pursuant to the contractual terms of the financing agreement, including scheduled interest payments, are unable to be collected, the financing receivable is considered impaired. All such outstanding amounts, including any accrued interest, are assessed and fully reserved at the customer level. The Company's internal credit risk ratings are categorized as 1 through 10, with the lowest credit risk rating representing the highest quality financing receivables. Typically, the Company also considers financing receivables with a risk rating of 8 or higher to be impaired and will include them in the individual assessment for allowance. The Company evaluates the remainder of its financing receivables portfolio for impairment on a collective basis and records an allowance for credit loss at the portfolio segment level. When evaluating the financing receivables on a collective basis, the Company uses historical default rates and expected default frequency rates published by major third-party credit-rating agencies as well as its own historical loss rate in the event of default, while also systematically giving effect to economic conditions, concentration of risk, and correlation.

Expected default frequency rates and historical default rates are published quarterly by major third-party credit-rating agencies, and the internal credit risk rating is derived by taking into consideration various customer-specific factors and macroeconomic conditions. These factors, which include the strength of the customer's business and financial performance, the quality of the customer's banking relationships, the Company's specific historical experience with the customer, the performance and outlook of the customer's industry, the customer's legal and regulatory environment, the potential sovereign risk of the geographic locations in which the customer is operating, and independent third-party evaluations, are updated regularly or when facts and circumstances indicate that an update is deemed necessary.

Financing receivables are written off at the point when they are considered uncollectible, and all outstanding balances, including any previously earned but uncollected interest income, will be reversed and charged against the allowance for credit loss. The Company does not typically have any partially written-off financing receivables.

Outstanding financing receivables that are aged 31 days or more from the contractual payment date are considered past due. The Company does not accrue interest on financing receivables that are considered impaired or more than 90 days past due unless either the receivable has not been collected due to administrative reasons or the receivable is well secured and in the process of collection. Financing receivables may be placed on nonaccrual status earlier if, in management's opinion, a timely collection of the full principal and interest becomes uncertain. After a financing receivable has been categorized as nonaccrual, interest will be recognized when cash is received. A financing receivable may be returned to accrual status after all of the customer's delinquent balances of principal and interest have been settled, and the customer remains current for an appropriate period.

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The Company facilitates arrangements for third-party financing extended to channel partners, consisting of revolving short-term financing, generally with payment terms ranging from 60 to 90 days. In certain instances, these financing arrangements result in a transfer of the Company's receivables to the third party. The receivables are derecognized upon transfer, as these transfers qualify as true sales, and the Company receives a payment for the receivables from the third party based on the Company's standard payment terms. These financing arrangements facilitate the working capital requirements of the channel partners, and, in some cases, the Company guarantees a portion of these arrangements. The Company also provides financing guarantees for third-party financing arrangements extended to end-user customers related to leases and loans, which typically have terms of up to three years. The Company could be called upon to make payments under these guarantees in the event of nonpayment by the channel partners or end-user customers. Deferred revenue relating to these financing arrangements is recorded in accordance with revenue recognition policies or for the fair value of the financing guarantees.

(g) **Depreciation and Amortization** Property and equipment are stated at cost, less accumulated depreciation or amortization, whenever applicable. Depreciation and amortization expenses for property and equipment were approximately \$1.0 billion, \$1.1 billion, and \$1.2 billion for fiscal 2016, 2015, and 2014, respectively. Depreciation and amortization are computed using the straight-line method, generally over the following periods:

Asset Category	Period
Buildings	25 years
Building improvements	10 years
Leasehold improvements	Shorter of remaining lease term or up to 10 years
Computer equipment and related software	30 to 36 months
Production, engineering, and other equipment	Up to 5 years
Operating lease assets	Based on lease term
Furniture and fixtures	5 years

(h) **Business Combinations** The Company allocates the fair value of the purchase consideration of its acquisitions to the tangible assets, liabilities, and intangible assets acquired, including in-process research and development (IPR&D), based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. IPR&D is initially capitalized at fair value as an intangible asset with an indefinite life and assessed for impairment thereafter. When an IPR&D project is completed, the IPR&D is reclassified as an amortizable purchased intangible asset and amortized over the asset's estimated useful life. Acquisition-related expenses and related restructuring costs are recognized separately from the business combination and are expensed as incurred.

(i) **Goodwill and Purchased Intangible Assets** Goodwill is tested for impairment on an annual basis in the fourth fiscal quarter and, when specific circumstances dictate, between annual tests. When impaired, the carrying value of goodwill is written down to fair value. The goodwill impairment test involves a two-step process. The first step, identifying a potential impairment, compares the fair value of a reporting unit with its carrying amount, including goodwill. If the carrying value of the reporting unit exceeds its fair value, the second step would need to be conducted; otherwise, no further steps are necessary as no potential impairment exists. If necessary, the second step to measure the impairment loss would be to compare the implied fair value of the reporting unit goodwill with the carrying amount of that goodwill. Any excess of the reporting unit goodwill carrying value over the respective implied fair value is recognized as an impairment loss. Purchased intangible assets with finite lives are carried at cost, less accumulated amortization. Amortization is computed over the estimated useful lives of the respective assets. See "Long-Lived Assets" for the Company's policy regarding impairment testing of purchased intangible assets with finite lives. Purchased intangible assets with indefinite lives are assessed for potential impairment annually or when events or circumstances indicate that their carrying amounts might be impaired.

(j) **Long-Lived Assets** Long-lived assets that are held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability of long-lived assets is based on an estimate of the undiscounted future cash flows resulting from the use of the asset and its eventual disposition. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the difference between the fair value of the asset and its

carrying value. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less costs to sell.

(k) Fair Value Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required or permitted to be either recorded or disclosed at fair value, the Company considers the principal or most advantageous market in which it would transact, and it also considers assumptions that market participants would use when pricing the asset or liability.

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The accounting guidance for fair value measurement requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard establishes a fair value hierarchy based on the level of independent, objective evidence surrounding the inputs used to measure fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The fair value hierarchy is as follows:

Level 1 applies to assets or liabilities for which there are quoted prices in active markets for identical assets or liabilities.

Level 2 applies to assets or liabilities for which there are inputs other than quoted prices that are observable for the asset or liability such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.

Level 3 applies to assets or liabilities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

(l) **Derivative Instruments** The Company recognizes derivative instruments as either assets or liabilities and measures those instruments at fair value. The accounting for changes in the fair value of a derivative depends on the intended use of the derivative and the resulting designation. For a derivative instrument designated as a fair value hedge, the gain or loss is recognized in earnings in the period of change together with the offsetting loss or gain on the hedged item attributed to the risk being hedged. For a derivative instrument designated as a cash flow hedge, the effective portion of the derivative's gain or loss is initially reported as a component of AOCI and subsequently reclassified into earnings when the hedged exposure affects earnings. The ineffective portion of the gain or loss is reported in earnings immediately. For a derivative instrument designated as a net investment hedge of the Company's foreign operations, the gain or loss is recorded in the cumulative translation adjustment within AOCI together with the offsetting loss or gain of the hedged exposure of the underlying foreign operations. Any ineffective portion of the net investment hedges is reported in earnings during the period of change. For derivative instruments that are not designated as accounting hedges, changes in fair value are recognized in earnings in the period of change. The Company records derivative instruments in the statements of cash flows to operating, investing, or financing activities consistent with the cash flows of the hedged item.

Hedge effectiveness for foreign exchange forward contracts used as cash flow hedges is assessed by comparing the change in the fair value of the hedge contract with the change in the fair value of the forecasted cash flows of the hedged item. Hedge effectiveness for equity forward contracts and foreign exchange net investment hedge forward contracts is assessed by comparing changes in fair value due to changes in spot rates for both the derivative and the hedged item. For foreign exchange option contracts, hedge effectiveness is assessed based on the hedging instrument's entire change in fair value. Hedge effectiveness for interest rate swaps is assessed by comparing the change in fair value of the swap with the change in the fair value of the hedged item due to changes in the benchmark interest rate.

(m) **Foreign Currency Translation** Assets and liabilities of non-U.S. subsidiaries that operate in a local currency environment, where that local currency is the functional currency, are translated to U.S. dollars at exchange rates in effect at the balance sheet date, with the resulting translation adjustments directly recorded to a separate component of AOCI. Income and expense accounts are translated at average exchange rates during the year. Remeasurement adjustments are recorded in other income (loss), net. The effect of foreign currency exchange rates on cash and cash equivalents was not material for any of the fiscal years presented.

(n) **Concentrations of Risk** Cash and cash equivalents are maintained with several financial institutions. Deposits held with banks may exceed the amount of insurance provided on such deposits. Generally, these deposits may be redeemed upon demand and are maintained with financial institutions with reputable credit and therefore bear minimal credit risk. The Company seeks to mitigate its credit risks by spreading such risks across multiple counterparties and monitoring the risk profiles of these counterparties.

The Company performs ongoing credit evaluations of its customers and, with the exception of certain financing transactions, does not require collateral from its customers. The Company receives certain of its components from sole suppliers. Additionally, the Company relies on a limited number of contract manufacturers and suppliers to provide

manufacturing services for its products. The inability of a contract manufacturer or supplier to fulfill supply requirements of the Company could materially impact future operating results.

(o) Revenue Recognition The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred, the fee is fixed or determinable, and collectibility is reasonably assured. In instances where final acceptance of the product, system, or solution is specified by the customer, revenue is deferred until all acceptance criteria have been met. For hosting arrangements, the Company recognizes subscription revenue ratably over the subscription period, while usage revenue is recognized based on utilization. Software subscription revenue is deferred and recognized ratably over the subscription term upon delivery of the first product and commencement of the term. Technical support and consulting services revenue is deferred and recognized ratably over the period during which the services are to be performed, which is typically from one to three years. Transactional advanced services revenue is recognized upon delivery or completion of performance milestones.

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The Company uses distributors that stock inventory and typically sell to systems integrators, service providers, and other resellers. The Company refers to this as its two-tier sales to the end customer. Revenue from distributors is recognized based on a sell-through method using point-of-sale information provided by the distributors. Distributors and other partners participate in various rebate, cooperative marketing, and other incentive programs, and the Company maintains estimated accruals and allowances for these programs. The ending liability for these programs was included in other current liabilities, and the balance as of July 30, 2016 and July 25, 2015 was \$1.1 billion and \$1.3 billion, respectively. The Company accrues for warranty costs, sales returns, and other allowances based on its historical experience. Shipping and handling fees billed to customers are included in revenue, with the associated costs included in cost of sales.

Many of the Company's products have both software and non-software components that function together to deliver the products' essential functionality. The Company's product offerings fall into the following categories: Switching, Next-Generation Network (NGN) Routing, Collaboration, Service Provider Video, Data Center, Wireless, Security, and Other Products. The Company also provides technical support and advanced services. The Company has a broad customer base that encompasses virtually all types of public and private entities, including enterprise businesses, service providers, and commercial customers. The Company and its salesforce are not organized by product divisions, and the Company's products and services can be sold standalone or together in various combinations across the Company's geographic segments or customer markets. For example, service provider arrangements are typically larger in scale with longer deployment schedules and involve the delivery of a variety of product technologies, including high-end routing, video and network management software, and other product technologies along with technical support and advanced services. The Company's enterprise and commercial arrangements are unique for each customer and smaller in scale and may include network infrastructure products such as routers and switches or collaboration technologies such as Unified Communications and Cisco TelePresence systems products along with technical support services.

The Company enters into revenue arrangements that may consist of multiple deliverables of its product and service offerings due to the needs of its customers. For example, a customer may purchase routing products along with a contract for technical support services. This arrangement would consist of multiple elements, with the products delivered in one reporting period and the technical support services delivered across multiple reporting periods. Another customer may purchase networking products along with advanced service offerings, in which all the elements are delivered within the same reporting period. In addition, distributors purchase products or technical support services on a standalone basis for resale to an end user or for purposes of stocking certain products, and these transactions would not result in a multiple-element arrangement. The Company considers several factors when reviewing multiple purchases made by the same customer within a short time frame in order to identify multiple-element arrangements, including whether the deliverables are closely interrelated, whether the deliverables are essential to each other's functionality, whether payment terms are linked, whether the customer is entitled to a refund or concession if another purchase is not completed satisfactorily, and/or whether the purchases were negotiated together as one overall arrangement.

In many instances, products are sold separately in standalone arrangements as customers may support the products themselves or purchase support on a time-and-materials basis. Advanced services are sometimes sold in standalone engagements such as general consulting, network management, or security advisory projects, and technical support services are sold separately through renewals of annual contracts. The Company determines its vendor-specific objective evidence (VSOE) based on its normal pricing and discounting practices for products or services when sold separately. VSOE determination requires that a substantial majority of the historical standalone transactions has the selling prices for a product or service that fall within a reasonably narrow pricing range, generally evidenced by approximately 80% of such historical standalone transactions falling within plus or minus 15% of the median rates. In addition, the Company considers the geographies in which the products or services are sold, major product and service groups and customer classifications, and other environmental or marketing variables in determining VSOE.

When the Company is not able to establish VSOE for all deliverables in an arrangement with multiple elements, which may be due to the Company infrequently selling each element separately, not pricing products within a narrow range, or only having a limited sales history, such as in the case of certain newly introduced product categories, the

Company attempts to determine the selling price of each element based on third-party evidence of selling price (TPE). TPE is determined based on competitor prices for similar deliverables when sold separately. Generally, the Company's go-to-market strategy differs from that of its peers, and its offerings contain a significant level of differentiation such that the comparable pricing of products with similar functionality cannot be obtained. Furthermore, the Company is unable to reliably determine what similar competitor products' selling prices are on a standalone basis. Therefore, the Company is typically not able to determine TPE.

When the Company is unable to establish fair value using VSOE or TPE, the Company uses estimated selling prices (ESP) in its allocation of arrangement consideration. The objective of ESP is to determine the price at which the Company would transact a sale if the product or service were regularly sold on a standalone basis. ESP is generally used for new or highly proprietary offerings and solutions or for offerings not priced within a reasonably narrow range. The Company determines ESP for a product or service by considering multiple factors, including, but not limited to, geographies, market conditions, competitive landscape, internal costs, gross margin objectives, and pricing practices. The determination of ESP is made through consultation with and formal approval by the Company's management, taking into consideration the go-to-market strategy.

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The Company regularly reviews VSOE, TPE, and ESP and maintains internal controls over the establishment and updates of these estimates. There were no material impacts during the fiscal year, nor does the Company currently expect a material impact in the near term from changes in VSOE, TPE, or ESP.

The Company's arrangements with multiple deliverables may include one or more software deliverables that are subject to the software revenue recognition guidance. In these cases, revenue for the software is generally recognized upon shipment or electronic delivery and granting of the license. The revenue for these multiple-element arrangements is allocated to the software deliverables and the non-software deliverables based on the relative selling prices of all of the deliverables in the arrangement using the hierarchy in the applicable accounting guidance. In the circumstances where the Company cannot determine VSOE or TPE of the selling price for all of the deliverables in the arrangement, including the software deliverables, ESP is used for the purposes of performing this allocation. VSOE is required to allocate the revenue between multiple software deliverables. If VSOE is available for the undelivered software elements, the Company applies the residual method; where VSOE is not available, software revenue is either recognized when all software elements have been delivered or recognized ratably when post-contract support is the only undelivered software element remaining.

(p) Advertising Costs The Company expenses all advertising costs as incurred. Advertising costs included within sales and marketing expenses were approximately \$186 million, \$202 million, and \$196 million for fiscal 2016, 2015, and 2014, respectively.

(q) Share-Based Compensation Expense The Company measures and recognizes the compensation expense for all share-based awards made to employees and directors, including employee stock options, restricted stock units (RSUs), PRSUs, and employee stock purchases related to the Employee Stock Purchase Plan (Employee Stock Purchase Rights) based on estimated fair values. The fair value of employee stock options is estimated on the date of grant using a lattice-binomial option-pricing model (Lattice-Binomial Model) or the Black-Scholes model, and for employee stock purchase rights the Company estimates the fair value using the Black-Scholes model. The fair value for time-based stock awards and stock awards that are contingent upon the achievement of financial performance metrics is based on the grant date share price reduced by the present value of the expected dividend yield prior to vesting. The fair value of market-based stock awards is estimated using an option-pricing model on the date of grant. Share-based compensation expense is reduced for forfeitures.

(r) Software Development Costs Software development costs, including costs to develop software sold, leased, or otherwise marketed, that are incurred subsequent to the establishment of technological feasibility are capitalized if significant. Costs incurred during the application development stage for internal-use software are capitalized if significant. Capitalized software development costs are amortized using the straight-line amortization method over the estimated useful life of the applicable software. Such software development costs required to be capitalized have not been material to date.

(s) Income Taxes Income tax expense is based on pretax financial accounting income. Deferred tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized.

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

(t) Computation of Net Income per Share Basic net income per share is computed using the weighted-average number of common shares outstanding during the period. Diluted net income per share is computed using the weighted-average number of common shares and dilutive potential common shares outstanding during the period. Diluted shares outstanding includes the dilutive effect of in-the-money options, unvested restricted stock, and restricted stock units. The dilutive effect of such equity awards is calculated based on the average share price for each

fiscal period using the treasury stock method. Under the treasury stock method, the amount the employee must pay for exercising stock options, the amount of compensation cost for future service that the Company has not yet recognized, and the amount of tax benefits that would be recorded in additional paid-in capital when the award becomes deductible are collectively assumed to be used to repurchase shares.

(u) Consolidation of Variable Interest Entities The Company uses a qualitative approach in assessing the consolidation requirement for variable interest entities. The approach focuses on identifying which enterprise has the power to direct the activities that most significantly impact the variable interest entity's economic performance and which enterprise has the obligation to absorb losses or the right to receive benefits from the variable interest entity. In the event that the Company is the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity will be included in the Company's Consolidated Financial Statements.

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(v) Use of Estimates The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States requires management to make estimates and judgments that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. Estimates are used for the following, among others:

Revenue recognition

Allowances for accounts receivable, sales returns, and financing receivables

Inventory valuation and liability for purchase commitments with contract manufacturers and suppliers

Loss contingencies and product warranties

Fair value measurements and other-than-temporary impairments

Goodwill and purchased intangible asset impairments

Income taxes

The actual results experienced by the Company may differ materially from management's estimates.

(w) New Accounting Updates Recently Adopted

Classification of Deferred Taxes In the fourth quarter of fiscal 2016, the Company elected to early adopt an accounting standard update requiring all deferred tax assets and liabilities to be classified as non-current on the balance sheet instead of separating deferred taxes into current and non-current. The amended standard was adopted on a retrospective basis. As a result of the adoption, the Company made the following adjustments to the Consolidated Balance Sheet for fiscal 2015: a \$2.9 billion decrease to current deferred tax assets, a \$2.8 billion increase to non-current deferred tax assets, a \$211 million decrease to current deferred tax liabilities, and an increase of \$103 million to non-current deferred tax liabilities.

(x) Recent Accounting Standards or Updates Not Yet Effective as of Fiscal Year End

Revenue Recognition In May 2014, the FASB issued an accounting standard update related to revenue from contracts with customers, which, along with amendments issued in 2015 and 2016, will supersede nearly all current U.S. GAAP guidance on this topic and eliminate industry-specific guidance. The underlying principle is to recognize revenue when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. This accounting standard update, as amended, will be effective for the Company beginning in the first quarter of fiscal 2019. The new revenue standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. Early adoption is permitted, but no earlier than fiscal 2018. The Company expects to adopt this accounting standard update on a modified retrospective basis in the first quarter of fiscal 2019, and it is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

Consolidation of Certain Types of Legal Entities In February 2015, the FASB issued an accounting standard update that changes the analysis that a reporting entity must perform to determine whether it should consolidate certain types of legal entities. The accounting standard update was effective for the Company beginning in the first quarter of fiscal 2017. The application of this accounting standard update did not have any impact on the Company's Consolidated Balance Sheet or Statement of Operations upon adoption.

Financial Instruments In January 2016, the FASB issued an accounting standard update that changes the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2019, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

Leases In February 2016, the FASB issued an accounting standard update related to leases requiring lessees to recognize operating and financing lease liabilities on the balance sheet, as well as corresponding right-of-use assets. The new lease standard also makes some changes to lessor accounting and aligns key aspects of the lessor accounting model with the revenue recognition standard. In addition, disclosures will be required to enable users of financial statements to assess the amount, timing, and uncertainty of cash flows arising from leases. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2020 on a modified retrospective basis, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

Share-Based Compensation In March 2016, the FASB issued an accounting standard update that impacts the accounting for share-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities, and classification on the Consolidated Statements of Cash Flows. The accounting standard will be effective for the Company beginning the first quarter of fiscal 2018, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

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Credit Losses of Financial Instruments In June 2016, the FASB issued an accounting standard update that requires measurement and recognition of expected credit losses for financial assets held based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectibility of the reported amount. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2021 on a modified retrospective basis, and early adoption in fiscal 2020 is permitted. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Financial Statements.

Classification of Cash Flow Elements In August 2016, the FASB issued an accounting standard update related to the classification of certain cash receipts and cash payments on the statement of cash flows. The accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2019 on a retrospective basis, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its Consolidated Statements of Cash Flows.

3. Acquisitions and Divestitures

(a) Acquisition Summary

The Company completed 12 acquisitions during fiscal 2016. A summary of the allocation of the total purchase consideration is presented as follows (in millions):

Fiscal 2016	Purchase Consideration	Net Tangible Assets Acquired (Liabilities Assumed)	Purchased Intangible Assets	Goodwill
MaintenanceNet	\$ 105	\$ (21)	\$ 65	\$ 61
OpenDNS	545	(9)	61	493
Lancope	410	(34)	121	323
Acano	528	(27)	103	452
Leaba	219	(18)	96	141
Jasper	1,234	5	361	868
CliQr	225	(3)	69	159
Others (five in total)	112	(17)	64	65
Total	\$ 3,378	\$ (124)	\$ 940	\$ 2,562

On August 6, 2015, the Company completed its acquisition of privately held MaintenanceNet, Inc.

("MaintenanceNet"), a provider of a cloud-based software platform that uses data analytics and automation to manage renewals of recurring customer contracts. This acquisition is a component of the Company's strategy for its Services organization to simplify and digitize its business processes.

On August 26, 2015, the Company completed its acquisition of privately held OpenDNS, Inc. ("OpenDNS"), a provider of advanced threat protection for endpoint devices. With the OpenDNS acquisition, the Company aims to strengthen its security offerings by adding broad visibility and threat intelligence delivered through a software-as-a-service platform. Revenue from the OpenDNS acquisition has been included in the Company's Security product category.

On December 21, 2015, the Company completed its acquisition of privately held Lancope, Inc. ("Lancope"), a provider of network behavior analytics, threat visibility, and security intelligence. With the Lancope acquisition, the Company aims to advance its "security everywhere" strategy with an additional capability of network behavior analytics that extend protection further into the network. Revenue from the Lancope acquisition has been included in the Company's Security product category.

On January 29, 2016, the Company completed its acquisition of privately held, London-based Acano (UK) Limited ("Acano"), a collaboration infrastructure and conferencing software provider. With the Acano acquisition, the Company aims to enhance its collaboration strategy to deliver video across both cloud and hybrid environments. Revenue from the Acano acquisition has been included in the Company's Collaboration product category.

On March 3, 2016, the Company completed its acquisition of privately held Leaba Semiconductor, Ltd. ("Leaba"), an Israeli-based fabless semiconductor provider whose semiconductor expertise is expected to be leveraged to accelerate the Company's next-generation product portfolio. This acquisition is a component of the Company's strategy to enhance its product offerings in the networking chipset market.

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On March 18, 2016, the Company completed its acquisition of privately held Jasper Technologies, Inc. ("Jasper"), a provider of a cloud-based Internet of Things (IoT) software-as-a-service platform to help enterprises and service providers launch, manage, and monetize IoT services on a global scale. With the Jasper acquisition, the Company aims to offer an IoT solution that is interoperable across devices and works with IoT service providers, application developers, and an ecosystem of partners. Revenue from the Jasper acquisition has been included in the Company's Other product category.

On April 15, 2016, the Company completed its acquisition of privately held CliQr Technologies, Inc. ("CliQr"), an application-defined cloud orchestration platform provider. With the CliQr acquisition, the Company aims to help its customers simplify and accelerate their private, public, and hybrid cloud deployments. Revenue from the CliQr acquisition has been included in the Company's Switching product category.

The total purchase consideration related to the Company's acquisitions completed during fiscal 2016 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately \$44 million.

Fiscal 2015 and 2014 Acquisitions

Allocation of the purchase consideration for acquisitions completed in fiscal 2015 is summarized as follows (in millions):

Fiscal 2015	Purchase Consideration	Net Liabilities Assumed	Purchased Intangible Assets	Goodwill
Metacloud	\$ 149	\$ (7)	\$ 29	\$ 127
Others (five in total)	185	(13)	70	128
Total	\$ 334	\$ (20)	\$ 99	\$ 255

The Company acquired privately held Metacloud, Inc. ("Metacloud") in the first quarter of fiscal 2015. Prior to its acquisition, Metacloud provided private clouds for global organizations. With its acquisition of Metacloud, the Company aims to advance its Intercloud strategy to deliver a globally distributed, highly secure cloud platform. The Company has included revenue from the Metacloud acquisition, subsequent to the acquisition date, in the Company's Service category.

The total purchase consideration related to the Company's acquisitions completed during fiscal 2015 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately \$5 million.

Allocation of the purchase consideration for acquisitions completed in fiscal 2014 is summarized as follows (in millions):

Fiscal 2014	Purchase Consideration	Net Tangible Assets Acquired (Liabilities Assumed)	Purchased Intangible Assets	Goodwill
Composite Software	\$ 160	\$ (10)	\$ 75	\$ 95
Sourcefire	2,449	81	577	1,791
WhipTail	351	(34)	105	280
Tail-f	167	(7)	61	113
Others (four in total)	54	(5)	20	39
Total	\$ 3,181	\$ 25	\$ 838	\$ 2,318

The Company acquired privately held Composite Software, Inc. ("Composite Software") in the first quarter of fiscal 2014. Prior to its acquisition, Composite Software provided data virtualization software and services that connect many types of data from across the network and make it appear as if the data is in one place. With its acquisition of Composite Software, the Company intends to extend its next-generation services platform by connecting data and infrastructure. The Company has included revenue from the Composite Software acquisition, subsequent to the acquisition date, in the Company's Service category.

The Company acquired Sourcefire, Inc. (“Sourcefire”) in the first quarter of fiscal 2014. Prior to its acquisition, Sourcefire delivered innovative, highly automated security through continuous awareness, threat detection, and protection across its portfolio, including next-generation intrusion prevention systems, next-generation firewalls, and advanced malware protection. With its acquisition of Sourcefire, the Company aims to accelerate its security strategy of defending, discovering, and remediating advanced threats to provide continuous security solutions to the Company’s customers in more places across the network. The Company has included revenue from the Sourcefire acquisition in its Security product category.

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The Company acquired privately held WhipTail Technologies, Inc. (“WhipTail”) in the second quarter of fiscal 2014. Prior to its acquisition, WhipTail was a provider of high-performance, scalable solid state memory systems. In the fourth quarter of fiscal 2015, the Company announced the end-of-sale and end-of-life dates for the Cisco UCS Invicta Series in connection with the decision to shut down the WhipTail unit.

The Company acquired privately held Tail-f Systems AB (“Tail-f”) in the fourth quarter of fiscal 2014. Prior to its acquisitions, Tail-f was a provider of multi-vendor network service orchestration solutions for traditional and virtualized networks. With its acquisition of Tail-f, the Company intends to advance its cloud virtualization strategy. The Company has included revenue from the Tail-f acquisition in the Company's cloud and virtualization offerings within the Other products category.

The total purchase consideration related to the Company’s acquisitions completed during fiscal 2014 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately \$134 million.

(b) Divestiture of SP Video CPE Business

During the second quarter of fiscal 2016, the Company completed the sale of the assets comprising its SP Video CPE Business to Technicolor SA. As a result of the transaction, the Company received aggregate consideration of \$542 million consisting of \$372 million in cash and \$170 million in Technicolor stock (as of the divestiture date) and the transaction resulted in a gain of \$253 million, net of certain transaction costs incurred to date.

(c) Other Acquisition Information

Total transaction costs related to the Company’s acquisitions during fiscal 2016, 2015, and 2014 were \$32 million, \$10 million, and \$7 million, respectively. These transaction costs were expensed as incurred in G&A expenses in the Consolidated Statements of Operations.

The Company’s purchase price allocation for acquisitions completed during recent periods is preliminary and subject to revision as additional information about fair value of assets and liabilities becomes available. Additional information that existed as of the acquisition date but at that time was unknown to the Company, may become known to the Company during the remainder of the measurement period, a period not to exceed 12 months from the acquisition date. Adjustments in the purchase price allocation may require a recasting of the amounts allocated to goodwill retroactive to the period in which the acquisition occurred.

The goodwill generated from the Company’s acquisitions completed during fiscal 2016 is primarily related to expected synergies. The goodwill is generally not deductible for income tax purposes.

The Consolidated Financial Statements include the operating results of each acquisition from the date of acquisition. Pro forma results of operations for the acquisitions completed during the fiscal years presented have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to the Company’s financial results.

4. Goodwill and Purchased Intangible Assets**(a) Goodwill**

The following tables present the goodwill allocated to the Company’s reportable segments as of July 30, 2016 and July 25, 2015, as well as the changes to goodwill during fiscal 2016 and 2015 (in millions):

	Balance at July 25, 2015	Acquisitions	Divestiture	Other	Balance at July 30, 2016
Americas	\$15,212	\$ 1,607	\$ (126)	\$ (164)	\$16,529
EMEA	5,791	554	(12)	(64)	6,269
APJC	3,466	401	(3)	(37)	3,827
Total	\$24,469	\$ 2,562	\$ (141)	\$ (265)	\$26,625
	Balance at July 26,	Acquisitions	Divestiture	Other	Balance at July 25,

	2014			2015	
Americas	\$ 15,080	\$ 145	\$	—\$(13)	\$ 15,212
EMEA	5,715	84	—	(8)	5,791
APJC	3,444	26	—	(4)	3,466
Total	\$ 24,239	\$ 255	\$	—\$(25)	\$ 24,469

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“Other” in the tables above primarily consists of foreign currency translation, as well as immaterial purchase accounting adjustments.

(b) Purchased Intangible Assets

The following tables present details of the Company’s intangible assets acquired through acquisitions completed during fiscal 2016 and 2015 (in millions, except years):

	FINITE LIVES			INDEFINITE LIVES		TOTAL		
	TECHNOLOGY	CUSTOMER RELATIONSHIPS	OTHER	IPR&D				
	Weighted-Average Useful Life (in Years)	Weighted-Amount	Weighted-Average Useful Life (in Years)	Weighted-Average Useful Life (in Years)	Amount		Amount	
Fiscal 2016						Amount		
MaintenanceNet	5.0	\$ 50	5.0	\$ 2	2.0	\$ 2	\$ 11	\$ 65
OpenDNS	5.0	43	7.0	15	1.0	2	1	61
Lancope	5.0	79	6.0	29	3.0	3	10	121
Acano	5.0	9	5.0	12	0.0	—	82	103
Leaba	0.0	—	0.0	—	0.0	—	96	96
Jasper	6.0	240	7.0	75	2.0	23	23	361
CliQr	6.0	65	6.0	3	2.0	1	—	69
Others (five in total)	4.1	58	6.3	6	0.0	—	—	64
Total		\$ 544		\$ 142		\$ 31	\$ 223	\$ 940

	FINITE LIVES			INDEFINITE LIVES		TOTAL		
	TECHNOLOGY	CUSTOMER RELATIONSHIPS	OTHER	IPR&D				
	Weighted-Average Useful Life (in Years)	Weighted-Amount	Weighted-Average Useful Life (in Years)	Weighted-Average Useful Life (in Years)	Amount		Amount	
Fiscal 2015						Amount		
Metacloud	3.0	\$ 24	5.0	\$ 3	0.0	\$ —	\$ 2	\$ 29
Others (five in total)	4.7	48	7.8	12	5.8	6	4	70
Total		\$ 72		\$ 15		\$ 6	\$ 6	\$ 99

The following tables present details of the Company’s purchased intangible assets (in millions):

July 30, 2016	Gross	Accumulated Amortization	Net
Purchased intangible assets with finite lives:			
Technology	\$3,038	\$ (1,391)	\$ 1,647
Customer relationships	1,793	(1,203)	590
Other	85	(43)	42
Total purchased intangible assets with finite lives	4,916	(2,637)	2,279
In-process research and development, with indefinite lives	222	—	222
Total	\$5,138	\$ (2,637)	\$ 2,501

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July 25, 2015	Gross	Accumulated Amortization	Net
Purchased intangible assets with finite lives:			
Technology	\$3,418	\$ (1,818)	\$1,600
Customer relationships	1,699	(971)	728
Other	55	(24)	31
Total purchased intangible assets with finite lives	5,172	(2,813)	2,359
In-process research and development, with indefinite lives	17	—	17
Total	\$5,189	\$ (2,813)	\$2,376

Purchased intangible assets include intangible assets acquired through acquisitions as well as through direct purchases or licenses. In fiscal 2015, the Company, along with a number of other companies, entered into an agreement to obtain a license to the patents owned by the Rockstar Consortium, and the Company paid approximately \$300 million, of which \$188 million was expensed to product cost of sales related to the settlement of patent infringement claims, and the remainder was capitalized as an intangible asset to be amortized over its estimated useful life.

Impairment charges related to purchased intangible assets were approximately \$74 million and \$175 million for fiscal 2016 and fiscal 2015, respectively. Impairment charges were as a result of declines in estimated fair value resulting from the reduction or elimination of expected future cash flows associated with certain of the Company's technology and IPR&D intangible assets. There were no impairment charges related to purchased intangible assets during fiscal 2014.

The following table presents the amortization of purchased intangible assets (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Amortization of purchased intangible assets:			
Cost of sales	\$ 577	\$ 814	\$ 742
Operating expenses	303	359	275
Total	\$ 880	\$ 1,173	\$ 1,017

The estimated future amortization expense of purchased intangible assets with finite lives as of July 30, 2016 is as follows (in millions):

Fiscal Year	Amount
2017	\$ 730
2018	585
2019	495
2020	275
2021	132
Thereafter	62
Total	\$ 2,279

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5. Restructuring and Other Charges

The Company announced a restructuring action in August 2014 (the “Fiscal 2015 Plan”), in order to realign its workforce towards key growth areas of its business such as data center, software, security, and cloud. In connection with this plan, the Company incurred cumulative charges of approximately \$756 million. The Company completed the Fiscal 2015 Plan at the end of fiscal 2016.

In connection with a restructuring action announced in August 2013 (the “Fiscal 2014 Plan”), the Company incurred cumulative charges of approximately \$417 million, of which a \$1 million credit was recognized in fiscal 2016. The Company completed the Fiscal 2014 Plan at the end of fiscal 2014.

The following table summarizes the activities related to the restructuring and other charges, as discussed above (in millions):

	FISCAL 2014 AND PRIOR YEAR PLANS		FISCAL 2015 PLAN		
	Employee Severance	Other	Employee Severance	Other	Total
Liability as of July 27, 2013	\$21	\$ 7	\$—	\$—	\$28
Charges	366	52	—	—	418
Cash payments	(345)	(7)	—	—	(352)
Non-cash items	(2)	(23)	—	—	(25)
Liability as of July 26, 2014	40	29	—	—	69
Charges	—	—	464	20	484
Cash payments	(29)	(14)	(413)	(3)	(459)
Non-cash items	—	(1)	(2)	(2)	(5)
Liability as of July 25, 2015	11	14	49	15	89
Charges	—	(1)	225	44	268
Cash payments	(11)	(4)	(253)	(11)	(279)
Non-cash items	—	—	—	(33)	(33)
Liability as of July 30, 2016	\$—	\$ 9	\$21	\$15	\$45

In addition to the above amounts, the Company incurred \$2 million credit and \$5 million of restructuring and other charges within cost of sales during fiscal 2016 and fiscal 2015, respectively.

In August 2016, the Company announced a restructuring plan that will impact up to 5,500 employees, representing approximately 7% of its global workforce. The Company began taking action under this plan in the first quarter of fiscal 2017. The Company currently estimates that it will recognize pre-tax charges of up to \$700 million consisting of severance and other one-time termination benefits, and other associated costs. These charges are primarily cash based. The Company expects that approximately \$325 million to \$400 million of these charges will be recognized during the first quarter of fiscal 2017, with the remaining amount to be recognized during the rest of the fiscal 2017.

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6. Balance Sheet Details

The following tables provide details of selected balance sheet items (in millions):

	July 30, July 25,	
	2016	2015
Inventories:		
Raw materials	\$91	\$114
Work in process	—	2
Finished goods:		
Distributor inventory and deferred cost of sales	457	610
Manufactured finished goods	415	593
Total finished goods	872	1,203
Service-related spares	236	258
Demonstration systems	18	50
Total	\$1,217	\$1,627
Property and equipment, net:		
Gross property and equipment:		
Land, buildings, and building and leasehold improvements	\$4,778	\$4,495
Computer equipment and related software	1,288	1,310
Production, engineering, and other equipment	5,658	5,753
Operating lease assets	296	372
Furniture and fixtures	543	497
Total gross property and equipment	12,563	12,427
Less: accumulated depreciation and amortization	(9,057)	(9,095)
Total	\$3,506	\$3,332
Deferred revenue:		
Service		\$10,621 \$9,757
Product:		
Unrecognized revenue on product shipments and other deferred revenue	5,474	4,766
Deferred revenue related to two-tier distributors	377	660
Total product deferred revenue	5,851	5,426
Total	\$16,472	\$15,183
Reported as:		
Current		\$10,155 \$9,824
Noncurrent		6,317 5,359
Total		\$16,472 \$15,183

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7. Financing Receivables and Operating Leases

(a) Financing Receivables

Financing receivables primarily consist of lease receivables, loan receivables, and financed service contracts and other. Lease receivables represent sales-type and direct-financing leases resulting from the sale of the Company's and complementary third-party products and are typically collateralized by a security interest in the underlying assets. Loan receivables represent financing arrangements related to the sale of the Company's products and services, which may include additional funding for other costs associated with network installation and integration of the Company's products and services. Lease receivables consist of arrangements with terms of four years on average, while loan receivables generally have terms of up to three years. The financed service contracts and other category includes financing receivables related to technical support and advanced services, as well as receivables related to financing of certain indirect costs associated with leases. Revenue related to the technical support services is typically deferred and included in deferred service revenue and is recognized ratably over the period during which the related services are to be performed, which typically ranges from one to three years.

A summary of the Company's financing receivables is presented as follows (in millions):

	Lease Receivables	Loan Receivables	Financed Service Contracts and Other	Total
July 30, 2016				
Gross	\$ 3,272	\$ 2,135	\$ 3,370	\$8,777
Residual value	202	—	—	202
Unearned income	(174)	—	—	(174)
Allowance for credit loss	(230)	(97)	(48)	(375)
Total, net	\$ 3,070	\$ 2,038	\$ 3,322	\$8,430
Reported as:				
Current	\$ 1,490	\$ 988	\$ 1,794	\$4,272
Noncurrent	1,580	1,050	1,528	4,158
Total, net	\$ 3,070	\$ 2,038	\$ 3,322	\$8,430
July 25, 2015				
Gross	\$ 3,361	\$ 1,763	\$ 3,573	\$8,697
Residual value	224	—	—	224
Unearned income	(190)	—	—	(190)
Allowance for credit loss	(259)	(87)	(36)	(382)
Total, net	\$ 3,136	\$ 1,676	\$ 3,537	\$8,349
Reported as:				
Current	\$ 1,468	\$ 856	\$ 2,167	\$4,491
Noncurrent	1,668	820	1,370	3,858
Total, net	\$ 3,136	\$ 1,676	\$ 3,537	\$8,349

As of July 30, 2016 and July 25, 2015, the deferred service revenue related to "Financed Service Contracts and Other" was \$1,716 million and \$1,853 million, respectively.

Future minimum lease payments to the Company on lease receivables as of July 30, 2016 are summarized as follows (in millions):

Fiscal Year	Amount
2017	\$ 1,565
2018	962

2019	500
2020	209
2021	36
Total	\$ 3,272

Actual cash collections may differ from the contractual maturities due to early customer buyouts, refinancings, or defaults.

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(b) Credit Quality of Financing Receivables

Gross receivables, excluding residual value, less unearned income categorized by the Company's internal credit risk rating as of July 30, 2016 and July 25, 2015 are summarized as follows (in millions):

	INTERNAL CREDIT RISK RATING			
	1 to 4	5 to 6	7 and Higher	Total
July 30, 2016				
Lease receivables	\$1,703	\$1,294	\$ 101	\$3,098
Loan receivables	986	967	182	2,135
Financed service contracts and other	2,077	1,271	22	3,370
Total	\$4,766	\$3,532	\$ 305	\$8,603

	INTERNAL CREDIT RISK RATING			
	1 to 4	5 to 6	7 and Higher	Total
July 25, 2015				
Lease receivables	\$1,688	\$1,342	\$ 141	\$3,171
Loan receivables	788	823	152	1,763
Financed service contracts and other	2,133	1,389	51	3,573
Total	\$4,609	\$3,554	\$ 344	\$8,507

The Company determines the adequacy of its allowance for credit loss by assessing the risks and losses inherent in its financing receivables by portfolio segment. The portfolio segment is based on the types of financing offered by the Company to its customers, which consist of the following: lease receivables, loan receivables, and financed service contracts and other.

The Company's internal credit risk ratings of 1 through 4 correspond to investment-grade ratings, while credit risk ratings of 5 and 6 correspond to non-investment grade ratings. Credit risk ratings of 7 and higher correspond to substandard ratings.

In circumstances when collectibility is not deemed reasonably assured, the associated revenue is deferred in accordance with the Company's revenue recognition policies, and the related allowance for credit loss, if any, is included in deferred revenue. The Company also records deferred revenue associated with financing receivables when there are remaining performance obligations, as it does for financed service contracts. Total allowances for credit loss and deferred revenue as of July 30, 2016 and July 25, 2015 were \$2,112 million and \$2,253 million, respectively, and they were associated with total financing receivables before allowance for credit loss of \$8,805 million and \$8,731 million as of their respective period ends.

The following tables present the aging analysis of gross receivables, excluding residual value and less unearned income as of July 30, 2016 and July 25, 2015 (in millions):

	DAYS PAST DUE (INCLUDES BILLED AND UNBILLED)				Current	Total	Nonaccrual Financing Receivables	Impaired Financing Receivables
	31 - 60	61 - 90	91+	Total Past Due				
July 30, 2016								
Lease receivables	\$111	\$25	\$251	\$ 387	\$2,711	\$3,098	\$ 60	\$ 60
Loan receivables	30	9	37	76	2,059	2,135	42	42
Financed service contracts and other	213	152	565	930	2,440	3,370	30	10
Total	\$354	\$186	\$853	\$ 1,393	\$7,210	\$8,603	\$ 132	\$ 112

	DAYS PAST DUE (INCLUDES BILLED AND UNBILLED)				Current	Total	Nonaccrual Financing Receivables	Impaired Financing Receivables
	31 - 60	61 - 90	91+	Total Past Due				
July 25, 2015								

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Lease receivables	\$90	\$27	\$185	\$302	\$2,869	\$3,171	\$73	\$73
Loan receivables	21	3	25	49	1,714	1,763	32	32
Financed service contracts and other	396	152	414	962	2,611	3,573	29	9
Total	\$507	\$182	\$624	\$1,313	\$7,194	\$8,507	\$134	\$114

Past due financing receivables are those that are 31 days or more past due according to their contractual payment terms. The data in the preceding tables is presented by contract, and the aging classification of each contract is based on the oldest outstanding receivable, and therefore past due amounts also include unbilled and current receivables within the same contract. The balances of either unbilled or current financing receivables included in the category of 91 days plus past due for financing receivables were \$670 million and \$496 million as of July 30, 2016 and July 25, 2015, respectively.

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As of July 30, 2016, the Company had financing receivables of \$144 million, net of unbilled or current receivables, that were in the category of 91 days plus past due but remained on accrual status as they are well secured and in the process of collection. Such balance was \$70 million as of July 25, 2015.

(c) Allowance for Credit Loss Rollforward

The allowances for credit loss and the related financing receivables are summarized as follows (in millions):

	CREDIT LOSS ALLOWANCES				
	Lease Receivables	Loan Receivables	Financed Service Contracts and Other	Total	
Allowance for credit loss as of July 25, 2015	\$259	\$ 87	\$ 36	\$382	
Provisions	(13)	13	17	17	
Recoveries (write-offs), net	(10)	—	(5)	(15)	
Foreign exchange and other	(6)	(3)	—	(9)	
Allowance for credit loss as of July 30, 2016	\$230	\$ 97	\$ 48	\$375	
	CREDIT LOSS ALLOWANCES				
	Lease Receivables	Loan Receivables	Financed Service Contracts and Other	Total	
Allowance for credit loss as of July 26, 2014	\$233	\$ 98	\$ 18	\$349	
Provisions	45	(8)	20	57	
Recoveries (write-offs), net	(7)	1	(1)	(7)	
Foreign exchange and other	(12)	(4)	(1)	(17)	
Allowance for credit loss as of July 25, 2015	\$259	\$ 87	\$ 36	\$382	

	CREDIT LOSS ALLOWANCES				
	Lease Receivables	Loan Receivables	Financed Service Contracts and Other	Total	
Allowance for credit loss as of July 27, 2013	\$238	\$ 86	\$ 20	\$344	
Provisions	4	9	1	14	
Recoveries (write-offs), net	(11)	5	(3)	(9)	
Foreign exchange and other	2	(2)	—	—	
Allowance for credit loss as of July 26, 2014	\$233	\$ 98	\$ 18	\$349	

(d) Operating Leases

The Company provides financing of certain equipment through operating leases, and the amounts are included in property and equipment in the Consolidated Balance Sheets. Amounts relating to equipment on operating lease assets and the associated accumulated depreciation are summarized as follows (in millions):

	July 30, 2016	July 25, 2015
Operating lease assets	\$ 296	\$ 372
Accumulated depreciation	(161)	(205)
Operating lease assets, net	\$ 135	\$ 167

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Minimum future rentals on noncancelable operating leases as of July 30, 2016 are summarized as follows (in millions):

Fiscal Year	Amount
2017	\$ 199
2018	138
2019	47
2020	8
2021	4
Thereafter	2
Total	\$ 398

8. Investments

(a) Summary of Available-for-Sale Investments

The following tables summarize the Company's available-for-sale investments (in millions):

July 30, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Fixed income securities:				
U.S. government securities	\$ 26,473	\$ 73	\$ (2)	\$26,544
U.S. government agency securities	2,809	8	—	2,817
Non-U.S. government and agency securities	1,096	4	—	1,100
Corporate debt securities	24,044	263	(15)	24,292
U.S. agency mortgage-backed securities	1,846	22	—	1,868
Total fixed income securities	56,268	370	(17)	56,621
Publicly traded equity securities	1,211	333	(40)	1,504
Total ⁽¹⁾	\$ 57,479	\$ 703	\$ (57)	\$58,125

July 25, 2015	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Fixed income securities:				
U.S. government securities	\$ 29,904	\$ 41	\$ (6)	\$29,939
U.S. government agency securities	3,662	2	(1)	3,663
Non-U.S. government and agency securities	1,128	1	(1)	1,128
Corporate debt securities	15,802	34	(53)	15,783
U.S. agency mortgage-backed securities	1,456	8	(3)	1,461
Total fixed income securities	51,952	86	(64)	51,974
Publicly traded equity securities	1,092	480	(7)	1,565
Total ⁽¹⁾	\$ 53,044	\$ 566	\$ (71)	\$53,539

⁽¹⁾ Includes investments that were pending settlement as of the respective fiscal years. The net unsettled investment purchases were \$654 million and \$4 million as of July 30, 2016 and July 25, 2015, respectively.

Non-U.S. government and agency securities include agency and corporate debt securities that are guaranteed by non-U.S. governments.

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(b)Gains and Losses on Available-for-Sale Investments

The following table presents the gross realized gains and gross realized losses related to the Company's available-for-sale investments (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Gross realized gains	\$ 152	\$ 221	\$ 341
Gross realized losses	(153)	(64)	(41)
Total	\$ (1)	\$ 157	\$ 300

The following table presents the realized net gains related to the Company's available-for-sale investments by security type (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Net gains on investments in publicly traded equity securities	\$ 33	\$ 116	\$ 253
Net gains/(losses) on investments in fixed income securities	(34)	41	47
Total	\$ (1)	\$ 157	\$ 300

For fiscal 2016, the realized net losses related to the Company's available-for-sale investments included impairment charges of \$3 million for fixed income securities. There were no impairment charges on available-for-sale investments for fiscal 2015. For fiscal 2014, the realized net gains related to the Company's available-for-sale investments included impairment charges of \$11 million for publicly traded equity securities. The impairment charges were due to a decline in the fair value of those securities below their cost basis that were determined to be other than temporary.

The following tables present the breakdown of the available-for-sale investments with gross unrealized losses and the duration that those losses had been unrealized at July 30, 2016 and July 25, 2015 (in millions):

	UNREALIZED LOSSES LESS THAN 12 MONTHS		UNREALIZED LOSSES 12 MONTHS OR GREATER		TOTAL	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
July 30, 2016						
Fixed income securities:						
U.S. government securities	\$ 2,414	\$ (2)	\$ —	\$ —	\$2,414	\$ (2)
U.S. government agency securities	144	—	—	—	144	—
Non-U.S. government and agency securities	61	—	—	—	61	—
Corporate debt securities	2,499	(7)	1,208	(8)	3,707	(15)
U.S. agency mortgage-backed securities	174	—	—	—	174	—
Total fixed income securities	5,292	(9)	1,208	(8)	6,500	(17)
Publicly traded equity securities	188	(40)	—	—	188	(40)
Total	\$ 5,480	\$ (49)	\$ 1,208	\$ (8)	\$6,688	\$ (57)
July 25, 2015						
Fixed income securities:						
U.S. government securities	\$ 6,412	\$ (6)	\$ —	\$ —	\$6,412	\$ (6)
U.S. government agency securities	1,433	(1)	—	—	1,433	(1)
Non-U.S. government and agency securities	515	(1)	4	—	519	(1)
Corporate debt securities	9,552	(49)	312	(4)	9,864	(53)
U.S. agency mortgage-backed securities	579	(3)	—	—	579	(3)

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Total fixed income securities	18,491	(60)	316	(4)	18,807	(64)
Publicly traded equity securities	108	(7)	2	—	110	(7)
Total	\$ 18,599	\$ (67)	\$ 318	\$ (4)	\$18,917	\$ (71)

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As of July 30, 2016, for fixed income securities that were in unrealized loss positions, the Company has determined that (i) it does not have the intent to sell any of these investments, and (ii) it is not more likely than not that it will be required to sell any of these investments before recovery of the entire amortized cost basis. In addition, as of July 30, 2016, the Company anticipates that it will recover the entire amortized cost basis of such fixed income securities and has determined that no other-than-temporary impairments associated with credit losses as of July 30, 2016 were required to be recognized.

The Company has evaluated its publicly traded equity securities as of July 30, 2016 and has determined that there was no indication of other-than-temporary impairments in the respective categories of unrealized losses. This determination was based on several factors, which include the length of time and extent to which fair value has been less than the cost basis, the financial condition and near-term prospects of the issuer, and the Company's intent and ability to hold the publicly traded equity securities for a period of time sufficient to allow for any anticipated recovery in market value.

(c) Maturities of Fixed Income Securities

The following table summarizes the maturities of the Company's fixed income securities at July 30, 2016 (in millions):

	Amortized Cost	Fair Value
Less than 1 year	\$ 15,473	\$ 15,485
Due in 1 to 2 years	17,791	17,847
Due in 2 to 5 years	20,870	21,128
Due after 5 years	288	293
Mortgage-backed securities with no single maturity	1,846	1,868
Total	\$ 56,268	\$ 56,621

Actual maturities may differ from the contractual maturities because borrowers may have the right to call or prepay certain obligations. The remaining contractual principal maturities for mortgage-backed securities were allocated assuming no prepayments.

(d) Securities Lending

The Company periodically engages in securities lending activities with certain of its available-for-sale investments. These transactions are accounted for as a secured lending of the securities, and the securities are typically loaned only on an overnight basis. The average daily balance of securities lending for fiscal 2016 and 2015 was \$1.0 billion and \$0.4 billion, respectively. The Company requires collateral equal to at least 102% of the fair market value of the loaned security and that the collateral be in the form of cash or liquid, high-quality assets. The Company engages in these secured lending transactions only with highly creditworthy counterparties, and the associated portfolio custodian has agreed to indemnify the Company against collateral losses. The Company did not experience any losses in connection with the secured lending of securities during the periods presented. As of July 30, 2016 and July 25, 2015, the Company had no outstanding securities lending transactions.

(e) Investments in Privately Held Companies

The carrying value of the Company's investments in privately held companies was included in other assets. For such investments that were accounted for under the equity and cost method as of July 30, 2016 and July 25, 2015, the amounts are summarized in the following table (in millions):

	July 30, July 25,	
	2016	2015
Equity method investments	\$ 174	\$ 170
Cost method investments	829	727
Total	\$ 1,003	\$ 897

For additional information on impairment charges related to investments in privately held companies, see Note 9.

Variable Interest Entities In the ordinary course of business, the Company has investments in privately held companies and provides financing to certain customers. These privately held companies and customers may be considered to be variable interest entities. The Company evaluates on an ongoing basis its investments in these privately held companies and its customer financings and has determined that as of July 30, 2016, except as disclosed herein, there were no variable interest entities required to be consolidated in the Company's Consolidated Financial Statements.

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9. Fair Value

(a) Assets and Liabilities Measured at Fair Value on a Recurring Basis

Assets and liabilities measured at fair value on a recurring basis as of July 30, 2016 and July 25, 2015 were as follows (in millions):

	JULY 30, 2016				JULY 25, 2015			
	FAIR VALUE				FAIR VALUE			
	MEASUREMENTS				MEASUREMENTS			
	Level 1	Level 2	Level 3	Total Balance	Level 1	Level 2	Level 3	Total Balance
Assets:								
Cash equivalents:								
Money market funds	\$6,049	\$—	\$—	\$6,049	\$5,336	\$—	\$—	\$5,336
Corporate debt securities	—	43	—	43	—	14	—	14
Available-for-sale investments:								
U.S. government securities	—	26,544	—	26,544	—	29,939	—	29,939
U.S. government agency securities	—	2,817	—	2,817	—	3,663	—	3,663
Non-U.S. government and agency securities	—	1,100	—	1,100	—	1,128	—	1,128
Corporate debt securities	—	24,292	—	24,292	—	15,783	—	15,783
U.S. agency mortgage-backed securities	—	1,868	—	1,868	—	1,461	—	1,461
Publicly traded equity securities	1,504	—	—	1,504	1,565	—	—	1,565
Derivative assets	—	384	1	385	—	214	4	218
Total	\$7,553	\$57,048	\$ 1	\$64,602	\$6,901	\$52,202	\$ 4	\$59,107
Liabilities:								
Derivative liabilities	\$—	\$54	\$—	\$54	\$—	\$12	\$—	\$12
Total	\$—	\$54	\$—	\$54	\$—	\$12	\$—	\$12

Level 1 publicly traded equity securities are determined by using quoted prices in active markets for identical assets. Level 2 fixed income securities are priced using quoted market prices for similar instruments or nonbinding market prices that are corroborated by observable market data. The Company uses inputs such as actual trade data, benchmark yields, broker/dealer quotes, and other similar data, which are obtained from quoted market prices, independent pricing vendors, or other sources, to determine the ultimate fair value of these assets and liabilities. The Company uses such pricing data as the primary input to make its assessments and determinations as to the ultimate valuation of its investment portfolio and has not made, during the periods presented, any material adjustments to such inputs. The Company is ultimately responsible for the financial statements and underlying estimates. The Company's derivative instruments are primarily classified as Level 2, as they are not actively traded and are valued using pricing models that use observable market inputs. The Company did not have any transfers between Level 1 and Level 2 fair value measurements during the periods presented.

Level 3 assets include certain derivative instruments, the values of which are determined based on discounted cash flow models using inputs that the Company could not corroborate with market data.

(b) Assets Measured at Fair Value on a Nonrecurring Basis

The following table presents the Company's assets that were measured at fair value on a nonrecurring basis during the indicated periods and the related recognized gains and losses for the periods indicated (in millions):

	TOTAL GAINS (LOSSES) FOR THE YEARS ENDED		
	July 30, 2016	July 25, 2015	July 26, 2014
Investments in privately held companies (impaired)	\$(57)	\$(38)	\$(21)
Purchased intangible assets (impaired)	(74)	(175)	—

Gains (losses) on assets no longer held at end of fiscal year	(10)	(8)	(2)
Total gains (losses) for nonrecurring measurements	\$(141)	\$(221)	\$(23)

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These assets were measured at fair value due to events or circumstances the Company identified as having significant impact on their fair value during the respective periods. To arrive at the valuation of these assets, the Company considers any significant changes in the financial metrics and economic variables and also uses third-party valuation reports to assist in the valuation as necessary.

The fair value measurement of the impaired investments was classified as Level 3 because significant unobservable inputs were used in the valuation due to the absence of quoted market prices and inherent lack of liquidity. Significant unobservable inputs, which included financial metrics of comparable private and public companies, financial condition and near-term prospects of the investees, recent financing activities of the investees, and the investees' capital structure as well as other economic variables, reflected the assumptions market participants would use in pricing these assets. The impairment charges, representing the difference between the net book value and the fair value as a result of the evaluation, were recorded to other income (loss), net. The remaining carrying value of the investments that were impaired was \$24 million as of July 30, 2016.

The fair value for purchased intangibles assets measured at fair value on a nonrecurring basis was categorized as Level 3 due to the use of significant unobservable inputs in the valuation. Significant unobservable inputs that were used included expected revenues and net income related to the assets and the expected life of the assets. The difference between the estimated fair value and the carrying value of the assets was recorded as an impairment charge, which was included in product cost of sales and operating expenses as applicable. See Note 4. The remaining carrying value of the specific purchased intangible assets that were impaired was zero as of July 30, 2016.

The fair value of property held for sale was measured with the assistance of third-party valuation models, which used discounted cash flow techniques as part of their analysis. The fair value measurement was categorized as Level 3, as significant unobservable inputs were used in the valuation report. The impairment charges as a result of the valuations, which represented the difference between the fair value less cost to sell and the carrying amount of the assets held for sale, were included in G&A expenses.

(c) Other Fair Value Disclosures

The carrying value of the Company's investments in privately held companies that were accounted for under the cost method was \$829 million and \$727 million as of July 30, 2016 and July 25, 2015, respectively. It was not practicable to estimate the fair value of this portfolio.

The fair value of the Company's short-term loan receivables and financed service contracts approximates their carrying value due to their short duration. The aggregate carrying value of the Company's long-term loan receivables and financed service contracts and other as of July 30, 2016 and July 25, 2015 was \$2.6 billion and \$2.2 billion, respectively. The estimated fair value of the Company's long-term loan receivables and financed service contracts and other approximates their carrying value. The Company uses significant unobservable inputs in determining discounted cash flows to estimate the fair value of its long-term loan receivables and financed service contracts, and therefore they are categorized as Level 3.

As of July 30, 2016 and July 25, 2015, the estimated fair value of the short-term debt approximates its carrying value due to the short maturities. As of July 30, 2016, the fair value of the Company's senior notes and other long-term debt was \$30.9 billion, with a carrying amount of \$28.6 billion. This compares to a fair value of \$26.6 billion and a carrying amount of \$25.4 billion as of July 25, 2015. The fair value of the senior notes and other long-term debt was determined based on observable market prices in a less active market and was categorized as Level 2 in the fair value hierarchy.

10. Borrowings**(a) Short-Term Debt**

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

	July 30, 2016			July 25, 2015		
	Amount	Effective Rate		Amount	Effective Rate	
Current portion of long-term debt	\$4,159	0.97 %		\$3,894	2.48 %	
Other notes and borrowings	1	2.08 %		3	2.44 %	

Total short-term debt	\$4,160	\$3,897
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The effective interest rate on the current portion of long-term debt includes the impact of interest rate swaps, as discussed further in "(b) Long-Term Debt." Other notes and borrowings consist of the short-term portion of secured borrowings associated with customer financing arrangements. These notes and credit facilities were subject to various terms and foreign currency market interest rates pursuant to individual financial arrangements between the financing institution and the applicable foreign subsidiary.

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On September 3, 2015, the Company repaid an aggregate principal amount of \$850 million upon maturity of its 2015 Floating-Rate Notes. On February 22, 2016, the Company repaid an aggregate principal amount of \$3.0 billion upon the maturity of its 2016 Fixed Rate Notes.

The Company has established a short-term debt financing program of up to \$3.0 billion through the issuance of commercial paper notes. The Company uses the proceeds from the issuance of commercial paper notes for general corporate purposes. The Company did not have any commercial paper notes outstanding as of each of July 30, 2016 and July 25, 2015.

(b) Long-Term Debt

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

	Maturity Date	July 30, 2016		July 25, 2015	
		Amount	Effective Rate	Amount	Effective Rate
Senior notes:					
Floating-rate notes:					
Three-month LIBOR plus 0.05%	September 3, 2015	\$—	—	\$850	0.43%
Three-month LIBOR plus 0.28%	March 3, 2017	1,000	1.03%	1,000	0.63%
Three-month LIBOR plus 0.60%	February 21, 2018 (1)	1,000	1.32%	—	—
Three-month LIBOR plus 0.31%	June 15, 2018	900	1.03%	900	0.65%
Three-month LIBOR plus 0.50%	March 1, 2019	500	1.23%	500	0.84%
Fixed-rate notes:					
5.50%	February 22, 2016	—	—	3,000	3.07%
1.10%	March 3, 2017	2,400	0.87%	2,400	0.59%
3.15%	March 14, 2017	750	1.22%	750	0.85%
1.40%	February 28, 2018 (1)	1,250	1.47%	—	—
1.65%	June 15, 2018	1,600	1.72%	1,600	1.72%
4.95%	February 15, 2019	2,000	4.76%	2,000	4.70%
1.60%	February 28, 2019 (1)	1,000	1.67%	—	—
2.125%	March 1, 2019	1,750	1.08%	1,750	0.80%
4.45%	January 15, 2020	2,500	3.25%	2,500	3.01%
2.45%	June 15, 2020	1,500	2.54%	1,500	2.54%
2.20%	February 28, 2021 (1)	2,500	2.30%	—	—
2.90%	March 4, 2021	500	1.24%	500	0.96%
3.00%	June 15, 2022	500	1.51%	500	1.21%
2.60%	February 28, 2023 (1)	500	2.68%	—	—
3.625%	March 4, 2024	1,000	1.36%	1,000	1.08%
3.50%	June 15, 2025	500	1.67%	500	1.37%
2.95%	February 28, 2026 (1)	750	3.01%	—	—
5.90%	February 15, 2039	2,000	6.11%	2,000	6.11%
5.50%	January 15, 2040	2,000	5.67%	2,000	5.67%
Other long-term debt		—	—	1	2.08%
Total		28,400		25,251	
Unaccreted discount/issuance costs		(137)		(131)	
Hedge accounting fair value adjustments		379		231	
Total		\$28,642		\$25,351	
Reported as:					
Current portion of long-term debt		\$4,159		\$3,894	
Long-term debt		24,483		21,457	
Total		\$28,642		\$25,351	

(1) In February 2016, the Company issued senior notes for an aggregate principal amount of \$7.0 billion.

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To achieve its interest rate risk management objectives, the Company entered into interest rate swaps in prior periods with an aggregate notional amount of \$9.9 billion designated as fair value hedges of certain of its fixed-rate senior notes. In effect, these swaps convert the fixed interest rates of the fixed-rate notes to floating interest rates based on the London InterBank Offered Rate (LIBOR). The gains and losses related to changes in the fair value of the interest rate swaps substantially offset changes in the fair value of the hedged portion of the underlying debt that are attributable to the changes in market interest rates. For additional information, see Note 11.

The effective rates for the fixed-rate debt include the interest on the notes, the accretion of the discount, and, if applicable, adjustments related to hedging. Interest is payable semiannually on each class of the senior fixed-rate notes and payable quarterly on the floating-rate notes. Each of the senior fixed-rate notes is redeemable by the Company at any time, subject to a make-whole premium.

The senior notes rank at par with the commercial paper notes that may be issued in the future pursuant to the Company's short-term debt financing program, as discussed above under "(a) Short-Term Debt." As of July 30, 2016, the Company was in compliance with all debt covenants.

As of July 30, 2016, future principal payments for long-term debt, including the current portion, are summarized as follows (in millions):

Fiscal Year	Amount
2017	\$4,150
2018	4,750
2019	5,250
2020	4,000
2021	3,000
Thereafter	7,250
Total	\$28,400

(c) Credit Facility

On May 15, 2015, the Company entered into a credit agreement with certain institutional lenders that provides for a \$3.0 billion unsecured revolving credit facility that is scheduled to expire on May 15, 2020. Any advances under the credit agreement will accrue interest at rates that are equal to, based on certain conditions, either (i) the highest of (a) the Federal Funds rate plus 0.50%, (b) Bank of America's "prime rate" as announced from time to time, or (c) LIBOR, or a comparable or successor rate that is approved by the Administrative Agent ("Eurocurrency Rate"), for an interest period of one-month plus 1.00%, or (ii) the Eurocurrency Rate, plus a margin that is based on the Company's senior debt credit ratings as published by Standard & Poor's Financial Services, LLC and Moody's Investors Service, Inc., provided that in no event will the Eurocurrency Rate be less than zero. The credit agreement requires the Company to comply with certain covenants, including that it maintains an interest coverage ratio as defined in the agreement.

The Company may also, upon the agreement of either the then-existing lenders or additional lenders not currently parties to the agreement, increase the commitments under the credit facility by up to an additional \$2.0 billion and/or extend the expiration date of the credit facility up to May 15, 2022. As of July 30, 2016, the Company was in compliance with the required interest coverage ratio and the other covenants, and the Company had not borrowed any funds under the credit facility.

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11. Derivative Instruments

(a) Summary of Derivative Instruments

The Company uses derivative instruments primarily to manage exposures to foreign currency exchange rate, interest rate, and equity price risks. The Company's primary objective in holding derivatives is to reduce the volatility of earnings and cash flows associated with changes in foreign currency exchange rates, interest rates, and equity prices. The Company's derivatives expose it to credit risk to the extent that the counterparties may be unable to meet the terms of the agreement. The Company does, however, seek to mitigate such risks by limiting its counterparties to major financial institutions. In addition, the potential risk of loss with any one counterparty resulting from this type of credit risk is monitored. Management does not expect material losses as a result of defaults by counterparties.

The fair values of the Company's derivative instruments and the line items on the Consolidated Balance Sheets to which they were recorded are summarized as follows (in millions):

	DERIVATIVE ASSETS			DERIVATIVE LIABILITIES		
	Balance Sheet Line Item	July 30, 2016	July 25, 2015	Balance Sheet Line Item	July 30, 2016	July 25, 2015
Derivatives designated as hedging instruments:						
Foreign currency derivatives	Other current assets	\$ 7	\$ 10	Other current liabilities	\$ 53	\$ 11
Interest rate derivatives	Other current assets	11	22	Other current liabilities	—	—
Interest rate derivatives	Other assets	366	180	Other long-term liabilities	—	—
Total		384	212		53	11
Derivatives not designated as hedging instruments:						
Foreign currency derivatives	Other current assets	—	2	Other current liabilities	1	1
Equity derivatives/warrants	Other assets	1	4	Other long-term liabilities	—	—
Total		1	6		1	1
Total		\$ 385	\$ 218		\$ 54	\$ 12

The effects of the Company's cash flow and net investment hedging instruments on other comprehensive income (OCI) and the Consolidated Statements of Operations are summarized as follows (in millions):

	GAINS (LOSSES) RECOGNIZED IN OCI ON DERIVATIVES FOR THE YEARS ENDED (EFFECTIVE PORTION)			GAINS (LOSSES) RECLASSIFIED FROM AOCI INTO INCOME FOR THE YEARS ENDED (EFFECTIVE PORTION)			
	July 30, 2016	July 25, 2015	July 26, 2014	Line Item in Statements of Operations	July 30, 2016	July 25, 2015	July 26, 2014
Derivatives designated as cash flow hedging instruments:							
Foreign currency derivatives	\$ (66)	\$ (159)	\$ 48	Operating expenses	\$ (15)	\$ (121)	\$ 55
				Cost of sales—service	(5)	(33)	13
Total	\$ (66)	\$ (159)	\$ 48	Total	\$ (20)	\$ (154)	\$ 68
Derivatives designated as net investment hedging instruments:							
Foreign currency derivatives	\$ 16	\$ 42	\$ (15)	Other income (loss), net	\$ —	\$ —	\$ —

Derivatives designated as net investment hedging instruments:

Foreign currency derivatives \$ 16 \$ 42 \$ (15) Other income (loss), net \$ — \$ — \$ —
As of July 30, 2016, the Company estimates that approximately \$54 million of net derivative losses related to its cash flow hedges included in accumulated other comprehensive income (AOCI) will be reclassified into earnings within the next 12 months when the underlying hedged item impacts earnings.

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The effect on the Consolidated Statements of Operations of derivative instruments designated as fair value hedges and the underlying hedged items is summarized as follows (in millions):

Derivatives Designated as Fair Value Hedging Instruments	Line Item in Statements of Operations	GAINS (LOSSES) ON DERIVATIVE INSTRUMENTS FOR THE YEARS ENDED					
		July 30, 2016	July 25, 2015	July 26, 2014	July 30, 2016	July 25, 2015	July 26, 2014
Equity derivatives	Other income (loss), net	\$—	\$ 56	\$(72)	\$—	\$(56)	\$ 72
Interest rate derivatives	Interest expense	175	54	(2)	(169)	(57)	—
Total		\$175	\$ 110	\$(74)	\$(169)	\$(113)	\$ 72

The effect on the Consolidated Statements of Operations of derivative instruments not designated as hedges is summarized as follows (in millions):

Derivatives Not Designated as Hedging Instruments	Line Item in Statements of Operations	GAINS (LOSSES) FOR THE YEARS ENDED		
		July 30, 2016	July 25, 2015	July 26, 2014
Foreign currency derivatives	Other income (loss), net	\$(19)	\$(173)	\$ 23
Total return swaps—deferred compensation	Operating expenses	7	19	47
Equity derivatives	Other income (loss), net	13	27	34
Total		\$ 1	\$(127)	\$ 104

The notional amounts of the Company's outstanding derivatives are summarized as follows (in millions):

	July 30, 2016	July 25, 2015
Derivatives designated as hedging instruments:		
Foreign currency derivatives—cash flow hedges	\$2,683	\$1,201
Interest rate derivatives	9,900	11,400
Net investment hedging instruments	298	192
Derivatives not designated as hedging instruments:		
Foreign currency derivatives	2,057	2,023
Total return swaps—deferred compensation	476	462
Total	\$15,414	\$15,278

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(b) Offsetting of Derivative Instruments

The Company presents its derivative instruments at gross fair values in the Consolidated Balance Sheets. However, the Company's master netting and other similar arrangements with the respective counterparties allow for net settlement under certain conditions, which are designed to reduce credit risk by permitting net settlement with the same counterparty. To further limit credit risk, the Company also enters into collateral security arrangements related to certain derivative instruments whereby cash is posted as collateral between the counterparties based on the fair market value of the derivative instrument. Information related to these offsetting arrangements is summarized as follows (in millions):

	GROSS AMOUNTS OFFSET IN THE CONSOLIDATED BALANCE SHEET			GROSS AMOUNTS NOT OFFSET IN THE CONSOLIDATED BALANCE SHEET BUT WITH LEGAL RIGHTS TO OFFSET		
	Gross Amounts Recognized	Gross Amounts Offset	Net Amounts Presented	Gross Derivative Amounts	Cash Collateral	Net Amount
July 30, 2016						
Derivatives assets	\$ 385	\$ —	\$ 385	\$(23)	\$(305)	\$ 57
Derivatives liabilities	\$ 54	\$ —	\$ 54	\$(23)	\$ —	\$ 31
	GROSS AMOUNTS OFFSET IN THE CONSOLIDATED BALANCE SHEET			GROSS AMOUNTS NOT OFFSET IN THE CONSOLIDATED BALANCE SHEET BUT WITH LEGAL RIGHTS TO OFFSET		
	Gross Amounts Recognized	Gross Amounts Offset	Net Amounts Presented	Gross Derivative Amounts	Cash Collateral	Net Amount
July 25, 2015						
Derivatives assets	\$ 218	\$ —	\$ 218	\$(12)	\$(124)	\$ 82
Derivatives liabilities	\$ 12	\$ —	\$ 12	\$(12)	\$ —	\$ —

(c) Foreign Currency Exchange Risk

The Company conducts business globally in numerous currencies. Therefore, it is exposed to adverse movements in foreign currency exchange rates. To limit the exposure related to foreign currency changes, the Company enters into foreign currency contracts. The Company does not enter into such contracts for speculative purposes.

The Company hedges forecasted foreign currency transactions related to certain operating expenses and service cost of sales with currency options and forward contracts. These currency options and forward contracts, designated as cash flow hedges, generally have maturities of less than 24 months. The Company assesses effectiveness based on changes in total fair value of the derivatives. The effective portion of the derivative instrument's gain or loss is initially reported as a component of AOCI and subsequently reclassified into earnings when the hedged exposure affects earnings. The ineffective portion, if any, of the gain or loss is reported in earnings immediately. During the fiscal years presented, the Company did not discontinue any cash flow hedges for which it was probable that a forecasted transaction would not occur.

The Company enters into foreign exchange forward and option contracts to reduce the short-term effects of foreign currency fluctuations on assets and liabilities such as foreign currency receivables, including long-term customer financings, investments, and payables. These derivatives are not designated as hedging instruments. Gains and losses on the contracts are included in other income (loss), net, and substantially offset foreign exchange gains and losses from the remeasurement of intercompany balances or other current assets, investments, or liabilities denominated in currencies other than the functional currency of the reporting entity.

The Company hedges certain net investments in its foreign operations with forward contracts to reduce the effects of foreign currency fluctuations on the Company's net investment in those foreign subsidiaries. These derivative instruments generally have maturities of up to six months.

(d) Interest Rate Risk

Interest Rate Derivatives, Investments The Company's primary objective for holding fixed income securities is to achieve an appropriate investment return consistent with preserving principal and managing risk. To realize these objectives, the Company may utilize interest rate swaps or other derivatives designated as fair value or cash flow hedges. As of July 30, 2016 and July 25, 2015, the Company did not have any outstanding interest rate derivatives related to its fixed income securities.

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Interest Rate Derivatives Designated as Fair Value Hedges, Long-Term Debt In fiscal 2016, the Company did not enter into any interest rate swaps. In prior fiscal years, the Company entered into interest rate swaps designated as fair value hedges related to fixed-rate senior notes that are due in fiscal 2017 through 2025. Under these interest rate swaps, the Company receives fixed-rate interest payments and makes interest payments based on LIBOR plus a fixed number of basis points. The effect of such swaps is to convert the fixed interest rates of the senior fixed-rate notes to floating interest rates based on LIBOR. The gains and losses related to changes in the fair value of the interest rate swaps are included in interest expense and substantially offset changes in the fair value of the hedged portion of the underlying debt that are attributable to the changes in market interest rates. The fair value of the interest rate swaps was reflected in other current assets and other assets.

(e) Equity Price Risk

The Company may hold equity securities for strategic purposes or to diversify its overall investment portfolio. The publicly traded equity securities in the Company's portfolio are subject to price risk. To manage its exposure to changes in the fair value of certain equity securities, the Company has periodically entered into equity derivatives that are designated as fair value hedges. The changes in the value of the hedging instruments are included in other income (loss), net, and offset the change in the fair value of the underlying hedged investment. In addition, the Company periodically enters into equity derivatives that are not designated as accounting hedges. The changes in the fair value of these derivatives are also included in other income (loss), net.

The Company is also exposed to variability in compensation charges related to certain deferred compensation obligations to employees. Although not designated as accounting hedges, the Company utilizes derivatives such as total return swaps to economically hedge this exposure.

(f) Hedge Effectiveness

For the fiscal years presented, amounts excluded from the assessment of hedge effectiveness were not material for fair value, cash flow, and net investment hedges. In addition, hedge ineffectiveness for fair value, cash flow, and net investment hedges was not material for any of the fiscal years presented.

12. Commitments and Contingencies**(a) Operating Leases**

The Company leases office space in many U.S. locations. Outside the United States, larger leased sites include sites in Belgium, Canada, China, Germany, India, Israel, Japan, Netherlands, Poland, and the United Kingdom. The Company also leases equipment and vehicles. Future minimum lease payments under all noncancelable operating leases with an initial term in excess of one year as of July 30, 2016 are as follows (in millions):

Fiscal Year	Amount
2017	\$ 363
2018	280
2019	166
2020	118
2021	72
Thereafter	160
Total	\$ 1,159

Rent expense for office space and equipment totaled \$385 million, \$394 million, and \$413 million in fiscal 2016, 2015, and 2014, respectively.

(b) Purchase Commitments with Contract Manufacturers and Suppliers

The Company purchases components from a variety of suppliers and uses several contract manufacturers to provide manufacturing services for its products. During the normal course of business, in order to manage manufacturing lead times and help ensure adequate component supply, the Company enters into agreements with contract manufacturers and suppliers that either allow them to procure inventory based upon criteria as defined by the Company or establish the parameters defining the Company's requirements. A significant portion of the Company's reported purchase commitments arising from these agreements consists of firm, noncancelable, and unconditional commitments. In

certain instances, these agreements allow the Company the option to cancel, reschedule, and adjust the Company's requirements based on its business needs prior to firm orders being placed. As of July 30, 2016 and July 25, 2015, the Company had total purchase commitments for inventory of \$3,896 million and \$4,078 million, respectively.

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The Company records a liability for firm, noncancelable, and unconditional purchase commitments for quantities in excess of its future demand forecasts consistent with the valuation of the Company's excess and obsolete inventory. As of July 30, 2016 and July 25, 2015, the liability for these purchase commitments was \$159 million and \$156 million, respectively, and was included in other current liabilities.

(c) Other Commitments

In connection with the Company's acquisitions, the Company has agreed to pay certain additional amounts contingent upon the achievement of certain agreed-upon technology, development, product, or other milestones or upon the continued employment with the Company of certain employees of the acquired entities.

The following table summarizes the compensation expense related to acquisitions (in millions):

	July 30, 2016	July 25, 2015	July 26, 2014
Compensation expense related to acquisitions	\$ 282	\$ 334	\$ 607

As of July 30, 2016, the Company estimated that future cash compensation expense of up to \$328 million may be required to be recognized pursuant to the applicable business combination agreements, which included the remaining potential compensation expense related to Insieme as more fully discussed immediately below.

Insieme Networks, Inc. In the third quarter of fiscal 2012, the Company made an investment in Insieme, an early stage company focused on research and development in the data center market. As set forth in the agreement between the Company and Insieme, this investment included \$100 million of funding and a license to certain of the Company's technology. Immediately prior to the call option exercise and acquisition described below, the Company owned approximately 83% of Insieme as a result of these investments and has consolidated the results of Insieme in its Consolidated Financial Statements. In connection with this investment, the Company and Insieme entered into a put/call option agreement that provided the Company with the right to purchase the remaining interests in Insieme. In addition, the noncontrolling interest holders could require the Company to purchase their shares upon the occurrence of certain events.

During the first quarter of fiscal 2014, the Company exercised its call option and entered into an agreement to purchase the remaining interests in Insieme. The acquisition closed in the second quarter of fiscal 2014, at which time the former noncontrolling interest holders became eligible to receive up to two milestone payments, which will be determined using agreed-upon formulas based primarily on revenue for certain of Insieme's products. The Company recorded compensation expense of \$160 million, \$207 million, and \$416 million during fiscal 2016, 2015, and 2014, respectively, related to the fair value of the vested portion of amounts that were earned or are expected to be earned by the former noncontrolling interest holders. Continued vesting will result in additional compensation expense in future periods. Based on the terms of the agreement, the Company has determined that the maximum amount that could be recorded as compensation expense by the Company is approximately \$836 million (which includes the \$783 million that has been expensed to date), net of forfeitures.

The former noncontrolling interest holders earned the maximum amount related to the first milestone payment and were paid approximately \$389 million for a portion of this amount during fiscal 2016. The majority of the balance of the first milestone payment was paid during fiscal 2016. During the first quarter of fiscal 2017, the Company expects to pay approximately \$325 million pursuant to the second milestone payment and continued vesting of the first milestone payment.

The Company also has certain funding commitments, primarily related to its investments in privately held companies and venture funds, some of which are based on the achievement of certain agreed-upon milestones, and some of which are required to be funded on demand. The funding commitments were \$222 million and \$205 million as of July 30, 2016 and July 25, 2015, respectively.

(d) Product Warranties

The following table summarizes the activity related to the product warranty liability (in millions):

	July 30, 2016	July 25, 2015	July 26, 2014
Balance at beginning of fiscal year	\$ 449	\$ 446	\$ 402
Provisions for warranty issued	715	686	708

Adjustments for pre-existing warranties	(8)	10	(4)
Settlements	(714)	(693)	(660)
Divestiture	(28)	—	—
Balance at end of fiscal year	\$ 414	\$ 449	\$ 446

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The Company accrues for warranty costs as part of its cost of sales based on associated material product costs, labor costs for technical support staff, and associated overhead. The Company's products are generally covered by a warranty for periods ranging from 90 days to five years, and for some products the Company provides a limited lifetime warranty.

(e) Financing and Other Guarantees

In the ordinary course of business, the Company provides financing guarantees for various third-party financing arrangements extended to channel partners and end-user customers. Payments under these financing guarantee arrangements were not material for the periods presented.

Channel Partner Financing Guarantees The Company facilitates arrangements for third-party financing extended to channel partners, consisting of revolving short-term financing, generally with payment terms ranging from 60 to 90 days. These financing arrangements facilitate the working capital requirements of the channel partners, and, in some cases, the Company guarantees a portion of these arrangements. The volume of channel partner financing was \$26.9 billion, \$25.9 billion, and \$24.6 billion in fiscal 2016, 2015, and 2014, respectively. The balance of the channel partner financing subject to guarantees was \$1.1 billion and \$1.2 billion as of July 30, 2016 and July 25, 2015, respectively.

End-User Financing Guarantees The Company also provides financing guarantees for third-party financing arrangements extended to end-user customers related to leases and loans, which typically have terms of up to three years. The volume of financing provided by third parties for leases and loans as to which the Company had provided guarantees was \$63 million, \$107 million, and \$129 million in fiscal 2016, 2015, and 2014, respectively.

Financing Guarantee Summary The aggregate amounts of financing guarantees outstanding at July 30, 2016 and July 25, 2015, representing the total maximum potential future payments under financing arrangements with third parties along with the related deferred revenue, are summarized in the following table (in millions):

	July 30, 2016	July 25, 2015
Maximum potential future payments relating to financing guarantees:		
Channel partner	\$ 281	\$ 288
End user	96	129
Total	\$ 377	\$ 417
Deferred revenue associated with financing guarantees:		
Channel partner	\$(85)	\$(127)
End user	(76)	(107)
Total	\$(161)	\$(234)
Maximum potential future payments relating to financing guarantees, net of associated deferred revenue	\$ 216	\$ 183

Other Guarantees The Company's other guarantee arrangements as of July 30, 2016 and July 25, 2015 that were subject to recognition and disclosure requirements were not material.

(f) Supplier Component Remediation Liability

The Company has recorded in other current liabilities a liability for the expected remediation cost for certain products sold in prior fiscal years containing memory components manufactured by a single supplier between 2005 and 2010. These components were widely used across the industry and are included in a number of the Company's products. Defects in some of these components have caused products to fail after a power cycle event. Defect rates due to this issue have been and are expected to be low. However, the Company has seen a small number of its customers experience a growing number of failures in their networks as a result of this component problem. Although the majority of these products were beyond the Company's warranty terms, the Company has been proactively working with customers on mitigation. Prior to the second quarter of fiscal 2014, the Company had a liability of \$63 million related to this issue for expected remediation costs based on the intended approach at that time. In February 2014, on the basis of the growing number of failures described above, the Company decided to expand its approach, which resulted in a charge to product cost of sales of \$655 million being recorded for the second quarter of fiscal 2014. During fiscal 2016 and 2015, adjustments to product cost of sales of \$74 million and \$164 million, respectively, were

recorded to reduce the liability, reflecting net lower than previously estimated future costs to remediate the impacted customer products. The supplier component remediation liability was \$276 million and \$408 million as of July 30, 2016 and July 25, 2015, respectively.

Table of Contents(g) Indemnifications

In the normal course of business, the Company indemnifies other parties, including customers, lessors, and parties to other transactions with the Company, with respect to certain matters. The Company has agreed to hold such parties harmless against losses arising from a breach of representations or covenants or out of intellectual property infringement or other claims made against certain parties. These agreements may limit the time within which an indemnification claim can be made and the amount of the claim.

The Company is providing such indemnifications, among other cases, in matters involving certain of the Company's service provider customers that are subject to patent infringement claims asserted by Sprint Communications Company, L.P. ("Sprint") now pending in Kansas and Delaware. Sprint alleges that the service provider customers infringe Sprint's patents by offering Voice over Internet Protocol-based telephone services utilizing products provided by the Company and other manufacturers. Sprint seeks monetary damages. Sprint's cases in Kansas include claims against Comcast and Time Warner Cable, and the case in Delaware for which the Company is providing indemnification involves Cox Communications ("Cox"). On May 15, 2015, the judge in Sprint's Delaware action against Cox ruled invalid six of the asserted patents and a final judgment was entered on August 27, 2015, of invalidity, which Sprint appealed on October 1, 2015. In light of the invalidity rulings against Sprint in Delaware, the judge in Sprint's Kansas actions stayed the Kansas actions until resolution of Sprint's appeal from the Delaware action. On March 21, 2016, the judge in Sprint's Delaware action also granted a partial summary judgment for Cox, finding that Cox does not literally infringe five of the remaining patents Sprint has asserted against Cox. On August 5, 2016, Cox filed motions for summary judgment for non-infringement under the doctrine of equivalents as to five patents and lack of damages evidence as to one patent. Sprint also dropped one patent from the case. The trial date for Sprint's doctrine of equivalents claims on four patents is set for trial on February 13, 2017. Additionally, Comcast has also won a judgment of non-infringement, now being appealed by Sprint, in a separate case brought against it by Sprint in Delaware.

The Company believes that the service providers have strong defenses and that its products do not infringe the patents subject to the claims and/or that Sprint's patents are invalid. Due to the uncertainty surrounding the litigation process, which involves numerous defendants, the Company is unable to reasonably estimate the ultimate outcome of this litigation at this time. Should the plaintiff prevail in litigation, mediation, or settlement, the Company, in accordance with its agreements, may have an obligation to indemnify its service provider customers for damages, mediation awards, or settlement amounts arising from their use of Cisco products.

In addition, the Company has entered into indemnification agreements with its officers and directors, and the Company's Amended and Restated Bylaws contain similar indemnification obligations to the Company's agents. It is not possible to determine the maximum potential amount under these indemnification agreements due to the Company's limited history with prior indemnification claims and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the Company under these agreements have not had a material effect on the Company's operating results, financial position, or cash flows.

(h) Legal Proceedings

Brazil Brazilian authorities have investigated the Company's Brazilian subsidiary and certain of its current and former employees, as well as a Brazilian importer of the Company's 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 the Company's 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 the Company's 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 that 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. The Company has completed a thorough review of the matters and believes the asserted claims against the Company's Brazilian subsidiary are without merit, and the Company is defending the claims vigorously. While the Company believes 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, the Company is unable to determine the likelihood of an unfavorable outcome against its Brazilian subsidiary and is unable to reasonably estimate a range of loss, if any. The Company does not expect a final judicial determination for several years.

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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, the Company has conducted an investigation into allegations that the Company and those agencies received regarding possible violations of the U.S. Foreign Corrupt Practices Act involving business activities of the Company's operations in Russia and certain of the Commonwealth of Independent States and by certain resellers of the Company's products in those countries. The Company takes any such allegations very seriously and has fully cooperated with and shared the results of its 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 the Company that they have decided not to bring enforcement actions.

Backflip Software Backflip Software, Inc. ("Backflip") asserted contract, tort, and fraud claims against the Company in Santa Clara County, California Superior Court. The proceeding was instituted on March 5, 2013. Backflip alleges that Cisco conspired with Backflip's then-CEO to allow the Company to access and use a copy of Backflip's source code via a pre-existing escrow agreement and that, subsequently, the Company 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. The Company believes that it has strong arguments that it was entitled to access and use a copy of the source code 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, the Company believes that damages would not be material given the Company's assessment of the value of the Backflip intellectual property that the Company is alleged to have misappropriated. However, due to the uncertainty surrounding the litigation process, the Company is 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 the Company in the U.S. District Court for the District of Delaware, accusing Cisco 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, the Company filed post-trial motions. The Company also intends to pursue an appeal to the United States Court of Appeals for the Federal Circuit on various grounds. The Company believes it has 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, the Company does not expect it to be material.

SSL SSL Services, LLC ("SSL") has asserted claims for patent infringement against the Company in the U.S. District Court for the Eastern District of Texas. The proceeding was instituted on March 25, 2015. SSL alleges that the Company's AnyConnect products that include Virtual Private Networking functions infringed a U.S. patent owned by SSL. SSL seeks money damages from the Company. 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 the Company 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. The Company believes it has strong arguments that the Company's products do not infringe and the patent is invalid. If the Company did not prevail and a jury were to find that the Company's AnyConnect products infringe, the Company believes damages, as appropriately measured, would be immaterial. Due to uncertainty surrounding patent litigation processes, however, the Company is 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 the Company redesigns the products. The Company believes that the lower court ruling in Cisco's favor in the infringement action was correct and should be affirmed. The Company does not anticipate that the outcome of the case would be material. However, due to uncertainty surrounding the litigation process, the Company is unable to reasonably estimate the outcome of the appeal and any subsequent appeals to a higher court at this time.

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In addition, the Company is 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, the Company does not expect that the ultimate costs to resolve these matters will have a material adverse effect on its consolidated financial position, results of operations, or cash flows.

13. Shareholders' Equity

(a) Cash Dividends on Shares of Common Stock

During fiscal 2016, the Company declared and paid cash dividends of \$0.94 per common share, or \$4.8 billion, on the Company's outstanding common stock. During fiscal 2015, the Company declared and paid cash dividends of \$0.80 per common share, or \$4.1 billion, on the Company's outstanding common stock.

Any future dividends will be subject to the approval of the Company's Board of Directors.

(b) Stock Repurchase Program

In September 2001, the Company's Board of Directors authorized a stock repurchase program. As of July 30, 2016, the Company's Board of Directors had authorized an aggregate repurchase of up to \$112 billion of common stock under this program, and the remaining authorized repurchase amount was \$15.4 billion, with no termination date. A summary of the stock repurchase activity under the stock repurchase program, reported based on the trade date, is summarized as follows (in millions, except per-share amounts):

	Shares Repurchased	Weighted- Average Price per Share	Amount Repurchased
Cumulative balance at July 26, 2014	4,288	\$ 20.63	\$ 88,445
Repurchase of common stock under the stock repurchase program ⁽¹⁾	155	27.22	4,234
Cumulative balance at July 25, 2015	4,443	20.86	92,679
Repurchase of common stock under the stock repurchase program ⁽²⁾	148	26.45	3,918
Cumulative balance at July 30, 2016	4,591	\$ 21.04	\$ 96,597

⁽¹⁾ Includes stock repurchases of \$36 million, which were pending settlement as of July 25, 2015.

⁽²⁾ Includes stock repurchases of \$45 million, which were pending settlement as of July 30, 2016.

The purchase price for the shares of the Company's stock repurchased is reflected as a reduction to shareholders' equity. The Company is required to allocate the purchase price of the repurchased shares as (i) a reduction to retained earnings and (ii) a reduction of common stock and additional paid-in capital.

(c) Restricted Stock Unit Withholdings

For the years ended July 30, 2016 and July 25, 2015, the Company repurchased approximately 21 million and 20 million shares, or \$557 million and \$502 million, of common stock, respectively, in settlement of employee tax withholding obligations due upon the vesting of restricted stock or stock units.

(d) Preferred Stock

Under the terms of the Company's Articles of Incorporation, the Board of Directors may determine the rights, preferences, and terms of the Company's authorized but unissued shares of preferred stock.

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14. Employee Benefit Plans

(a) Employee Stock Incentive Plans

Stock Incentive Plan Program Description As of July 30, 2016, the Company had three stock incentive plans: the 2005 Stock Incentive Plan (the “2005 Plan”); the Cisco Systems, Inc. SA Acquisition Long-Term Incentive Plan (the “SA Acquisition Plan”); and the Cisco Systems, Inc. WebEx Acquisition Long-Term Incentive Plan (the “WebEx Acquisition Plan”). In addition, the Company has, in connection with the acquisitions of various companies, assumed the share-based awards granted under stock incentive plans of the acquired companies or issued share-based awards in replacement thereof. Share-based awards are designed to reward employees for their long-term contributions to the Company and provide incentives for them to remain with the Company. The number and frequency of share-based awards are based on competitive practices, operating results of the Company, government regulations, and other factors. The Company’s primary stock incentive plans are summarized as follows:

2005 Plan As of July 30, 2016, the maximum number of shares issuable under the 2005 Plan over its term was 694 million shares, plus shares from the 1996 Stock Incentive Plan, the SA Acquisition Plan, and the WebEx Acquisition Plan that are forfeited or are terminated for any other reason before being exercised or settled. If any awards granted under the 2005 Plan are forfeited or are terminated for any other reason before being exercised or settled, the unexercised or unsettled shares underlying the awards will again be available under the 2005 Plan. Starting November 19, 2013, shares withheld by the Company from an award other than a stock option or stock appreciation right to satisfy withholding tax liabilities resulting from such award will again be available for issuance, based on the fungible share ratio in effect on the date of grant.

Pursuant to an amendment approved by the Company’s shareholders on November 12, 2009, the number of shares available for issuance under the 2005 Plan is reduced by 1.5 shares for each share awarded as a stock grant or a stock unit, and any shares underlying awards outstanding under the 1996 Stock Incentive Plan, the SA Acquisition Plan, and the WebEx Acquisition Plan that expire unexercised at the end of their maximum terms become available for reissuance under the 2005 Plan. The 2005 Plan permits the granting of stock options, restricted stock, and RSUs, the vesting of which may be performance-based or market-based along with the requisite service requirement, and stock appreciation rights to employees (including employee directors and officers), consultants of the Company and its subsidiaries and affiliates, and non-employee directors of the Company. Stock options and stock appreciation rights granted under the 2005 Plan have an exercise price of at least 100% of the fair market value of the underlying stock on the grant date and prior to November 12, 2009 have an expiration date no later than nine years from the grant date. The expiration date for stock options and stock appreciation rights granted subsequent to the amendment approved on November 12, 2009 shall be no later than 10 years from the grant date.

The stock options will generally become exercisable for 20% or 25% of the option shares one year from the date of grant and then ratably over the following 48 months or 36 months, respectively. Time-based stock grants and time-based RSUs will generally vest with respect to 20% or 25% of the shares or share units covered by the grant annually over the vesting period. The majority of the performance-based and market-based RSUs vests at the end of the three-year requisite service period or earlier if the award recipient meets certain retirement eligibility conditions. Certain performance-based RSUs that are based on the achievement of financial and/or non-financial operating goals typically vest upon the achievement of milestones (and may require subsequent service periods), with overall vesting of the shares underlying the award ranging from six months to three years. The Compensation and Management Development Committee of the Board of Directors has the discretion to use different vesting schedules. Stock appreciation rights may be awarded in combination with stock options or stock grants, and such awards shall provide that the stock appreciation rights will not be exercisable unless the related stock options or stock grants are forfeited. Stock grants may be awarded in combination with non-statutory stock options, and such awards may provide that the stock grants will be forfeited in the event that the related non-statutory stock options are exercised.

Acquisition Plans In connection with the Company’s acquisitions of Scientific-Atlanta, Inc. (“Scientific-Atlanta”) and WebEx Communications, Inc. (“WebEx”), the Company adopted the SA Acquisition Plan and the WebEx Acquisition Plan, respectively, each effective upon completion of the applicable acquisition. These plans constitute assumptions, amendments, restatements, and renamings of the 2003 Long-Term Incentive Plan of Scientific-Atlanta and the WebEx Communications, Inc. Amended and Restated 2000 Stock Incentive Plan, respectively. The plans permit the grant of

stock options, stock, stock units, and stock appreciation rights to certain employees of the Company and its subsidiaries and affiliates who had been employed by Scientific-Atlanta or its subsidiaries or WebEx or its subsidiaries, as applicable. As a result of the shareholder approval of the amendment and extension of the 2005 Plan, as of November 15, 2007, the Company will no longer make stock option grants or direct share issuances under either the SA Acquisition Plan or the WebEx Acquisition Plan.

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(b) Employee Stock Purchase Plan

The Company has an Employee Stock Purchase Plan, which includes its subplan named the International Employee Stock Purchase Plan (together, the "Purchase Plan"), under which 621 million shares of the Company's common stock have been reserved for issuance as of July 30, 2016. Eligible employees are offered shares through a 24-month offering period, which consists of four consecutive 6-month purchase periods. Employees may purchase a limited number of shares of the Company's stock at a discount of up to 15% of the lesser of the market value at the beginning of the offering period or the end of each 6-month purchase period. The Purchase Plan is scheduled to terminate on January 3, 2020. The Company issued 25 million, 27 million, and 27 million shares under the Purchase Plan in fiscal 2016, 2015, and 2014, respectively. As of July 30, 2016, 123 million shares were available for issuance under the Purchase Plan.

(c) Summary of Share-Based Compensation Expense

Share-based compensation expense consists primarily of expenses for stock options, stock purchase rights, restricted stock, and restricted stock units granted to employees. The following table summarizes share-based compensation expense (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Cost of sales—product	\$70	\$50	\$45
Cost of sales—service	142	157	150
Share-based compensation expense in cost of sales	212	207	195
Research and development	470	448	411
Sales and marketing	545	559	549
General and administrative	205	228	198
Restructuring and other charges	26	(2)	(5)
Share-based compensation expense in operating expenses	1,246	1,233	1,153
Total share-based compensation expense	\$1,458	\$1,440	\$1,348
Income tax benefit for share-based compensation	\$429	\$373	\$324

As of July 30, 2016, the total compensation cost related to unvested share-based awards not yet recognized was \$2.9 billion, which is expected to be recognized over approximately 2.6 years on a weighted-average basis.

(d) Share-Based Awards Available for Grant

A summary of share-based awards available for grant is as follows (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Balance at beginning of fiscal year	276	310	228
Restricted stock, stock units, and other share-based awards granted	(96)	(101)	(98)
Share-based awards canceled/forfeited/expired	30	40	36
Additional shares reserved	—	—	135
Shares withheld for taxes and not issued	30	27	6
Other	2	—	3
Balance at end of fiscal year	242	276	310

As reflected in the preceding table, for each share awarded as restricted stock or subject to a restricted stock unit award under the 2005 Plan, an equivalent of 1.5 shares was deducted from the available share-based award balance. For restricted stock units that were awarded with vesting contingent upon the achievement of future financial performance or market-based metrics, the maximum awards that can be achieved upon full vesting of such awards were reflected in the preceding table.

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(e) Restricted Stock and Stock Unit Awards

A summary of the restricted stock and stock unit activity, which includes time-based and performance-based or market-based restricted stock units, is as follows (in millions, except per-share amounts):

	Restricted Stock/ Stock Units	Weighted-Average Grant Date Fair Value per Share	Aggregate Fair Value
UNVESTED BALANCE AT JULY 27, 2013	143	\$ 18.80	
Granted and assumed	72	20.85	
Vested	(53)	19.55	\$ 1,229
Canceled/forfeited	(13)	18.61	
UNVESTED BALANCE AT JULY 26, 2014	149	19.54	
Granted and assumed	67	25.29	
Vested	(57)	19.82	\$ 1,517
Canceled/forfeited	(16)	20.17	
UNVESTED BALANCE AT JULY 25, 2015	143	22.08	
Granted and assumed	70	25.69	
Vested	(54)	20.68	\$ 1,428
Canceled/forfeited	(14)	22.86	
UNVESTED BALANCE AT JULY 30, 2016	145	\$ 24.26	

(f) Stock Option Awards

A summary of the stock option activity is as follows (in millions, except per-share amounts):

	STOCK OPTIONS OUTSTANDING	
	Number Outstanding	Weighted-Average Exercise Price per Share
BALANCE AT JULY 27, 2013	276	\$ 24.44
Assumed from acquisitions	6	3.60
Exercised	(78)	18.30
Canceled/forfeited/expired	(17)	27.53
BALANCE AT JULY 26, 2014	187	26.03
Assumed from acquisitions	1	2.60
Exercised	(71)	21.15
Canceled/forfeited/expired	(14)	29.68
BALANCE AT JULY 25, 2015	103	28.68
Assumed from acquisitions	18	5.17
Exercised	(32)	19.22
Canceled/forfeited/expired	(16)	30.01
BALANCE AT JULY 30, 2016	73	\$ 26.78

The total pretax intrinsic value of stock options exercised during fiscal 2016, 2015, and 2014 was \$266 million, \$434 million, and \$458 million, respectively.

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The following table summarizes significant ranges of outstanding and exercisable stock options as of July 30, 2016 (in millions, except years and share prices):

Range of Exercise Prices	STOCK OPTIONS OUTSTANDING				STOCK OPTIONS EXERCISABLE		
	Number Outstanding	Weighted-Average Remaining Contractual Life (in Years)	Weighted-Average Exercise Price per Share	Aggregate Intrinsic Value	Number Exercisable	Weighted-Average Exercise Price per Share	Aggregate Intrinsic Value
\$ 0.01 – 20.00	14	6.9	\$ 5.68	\$ 346	5	\$ 5.28	\$ 127
\$ 20.01 – 25.00	1	0.5	23.38	6	1	23.38	6
\$ 25.01 – 30.00	4	0.6	27.23	12	4	27.23	12
\$ 30.01 – 35.00	54	0.1	32.16	—	54	32.16	—
Total	73	1.4	\$ 26.78	\$ 364	64	\$ 29.66	\$ 145

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on the Company's closing stock price of \$30.53 as of July 29, 2016, that would have been received by the option holders had those option holders exercised their stock options as of that date. The total number of in-the-money stock options exercisable as of July 30, 2016 was 10 million. As of July 25, 2015, 102 million outstanding stock options were exercisable, and the weighted-average exercise price was \$29.02.

(g) Valuation of Employee Share-Based Awards

Time-based restricted stock units and PRSUs that are based on the Company's financial performance metrics or non-financial operating goals are valued using the market value of the Company's common stock on the date of grant, discounted for the present value of expected dividends. On the date of grant, the Company estimated the fair value of the total shareholder return (TSR) component of the PRSUs using a Monte Carlo simulation model. The assumptions for the valuation of time-based RSUs and PRSUs are summarized as follows:

Years Ended	RESTRICTED STOCK UNITS					
	July 30, 2016		July 25, 2015		July 26, 2014	
Number of shares granted (in millions)	57		55		56	
Grant date fair value per share	\$26.01		\$25.30		\$20.61	
Weighted-average assumptions/inputs:						
Expected dividend yield	3.2	%	2.9	%	3.1	%
Range of risk-free interest rates	0.0%		0.0% – 1.2%		0.0% – 1.7%	
Years Ended	PERFORMANCE BASED RESTRICTED STOCK UNITS					
	July 30, 2016		July 25, 2015		July 26, 2014	
Number of shares granted (in millions)	5		11		7	
Grant date fair value per share	\$24.70		\$24.85		\$21.90	
Weighted-average assumptions/inputs:						
Expected dividend yield	3.1	%	3.0	%	3.0	%
Range of risk-free interest rates	0.0%		0.0% – 1.2%		0.0% – 1.7%	
Range of expected volatilities for index	15.3% – 54.3%		14.3% – 70.0%		14.2% – 70.5%	

The PRSUs granted during fiscal 2016, 2015, and 2014 are contingent on the achievement of the Company's financial performance metrics, its comparative market-based returns, or the achievement of financial and non-financial operating goals. For the awards based on financial performance metrics or comparative market-based returns, generally 50% of the PRSUs are earned based on the average of annual operating cash flow and earnings per share goals established at the beginning of each fiscal year over a three-year performance period. Generally, the remaining 50% of the PRSUs are earned based on the Company's TSR measured against the benchmark TSR of a peer group over the same period. Each PRSU recipient could vest in 0% to 150% of the target shares granted contingent on the achievement of the Company's financial performance metrics or its comparative market-based returns, and 0% to 100% of the target shares granted contingent on the achievement of non-financial operating goals.

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The assumptions for the valuation of employee stock purchase rights are summarized as follows:

Years Ended	EMPLOYEE STOCK PURCHASE RIGHTS					
	July 30, 2016	July 25, 2015	July 26, 2014			
Weighted-average assumptions:						
Expected volatility	23.9	%	26.0	%	25.1	%
Risk-free interest rate	0.4	%	0.3	%	0.1	%
Expected dividend	3.1	%	2.8	%	2.8	%
Expected life (in years)	1.3		1.8		0.8	
Weighted-average estimated grant date fair value per share	\$ 5.73		\$ 6.54		\$ 5.54	

The valuation of employee stock purchase rights and the related assumptions are for the employee stock purchases made during the respective fiscal years.

The Company uses third-party analyses to assist in developing the assumptions used in, as well as calibrating, its lattice-binomial and Black-Scholes models. The Company is responsible for determining the assumptions used in estimating the fair value of its share-based payment awards.

The Company used the implied volatility for traded options (with contract terms corresponding to the expected life of the employee stock purchase rights) on the Company's stock as the expected volatility assumption required in the Black-Scholes model. The implied volatility is more representative of future stock price trends than historical volatility. The risk-free interest rate assumption is based upon observed interest rates appropriate for the term of the Company's employee stock purchase rights. The dividend yield assumption is based on the history and expectation of dividend payouts at the grant date.

(h) Employee 401(k) Plans

The Company sponsors the Cisco Systems, Inc. 401(k) Plan (the "Plan") to provide retirement benefits for its employees. As allowed under Section 401(k) of the Internal Revenue Code, the Plan provides for tax-deferred salary contributions and after-tax contributions for eligible employees. The Plan allows employees to contribute up to 75% of their annual eligible earnings to the Plan on a pretax and after-tax basis, including Roth contributions. Employee contributions are limited to a maximum annual amount as set periodically by the Internal Revenue Code. The Company matches pretax and Roth employee contributions up to 100% of the first 4.5% of eligible earnings that are contributed by employees. Therefore, the maximum matching contribution that the Company may allocate to each participant's account will not exceed \$11,925 for the 2016 calendar year due to the \$265,000 annual limit on eligible earnings imposed by the Internal Revenue Code. All matching contributions vest immediately. The Company's matching contributions to the Plan totaled \$262 million, \$244 million, and \$236 million in fiscal 2016, 2015, and 2014, respectively.

The Plan allows employees who meet the age requirements and reach the Plan contribution limits to make catch-up contributions (pretax or Roth) not to exceed the lesser of 75% of their annual eligible earnings or the limit set forth in the Internal Revenue Code. Catch-up contributions are not eligible for matching contributions. In addition, the Plan provides for discretionary profit-sharing contributions as determined by the Board of Directors. Such contributions to the Plan are allocated among eligible participants in the proportion of their salaries to the total salaries of all participants. There were no discretionary profit-sharing contributions made in fiscal 2016, 2015, and 2014.

The Company also sponsors other 401(k) plans as a result of acquisitions of other companies. The Company's contributions to these plans were not material to the Company on either an individual or aggregate basis for any of the fiscal years presented.

(i) Deferred Compensation Plans

The Cisco Systems, Inc. Deferred Compensation Plan (the "Deferred Compensation Plan"), a nonqualified deferred compensation plan, became effective in 2007. As required by applicable law, participation in the Deferred Compensation Plan is limited to a select group of the Company's management employees. Under the Deferred Compensation Plan, which is an unfunded and unsecured deferred compensation arrangement, a participant may elect to defer base salary, bonus, and/or commissions, pursuant to such rules as may be established by the Company, up to the maximum percentages for each deferral election as described in the plan. The Company may also, at its discretion, make a matching contribution to the employee under the Deferred Compensation Plan. A matching contribution equal

to 4.5% of eligible compensation in excess of the Internal Revenue Code limit for qualified plans for calendar year 2016 that is deferred by participants under the Deferred Compensation Plan (with a \$1.5 million cap on eligible compensation) will be made to eligible participants' accounts at the end of calendar year 2016. The deferred compensation liability under the Deferred Compensation Plan, together with a deferred compensation plan assumed from Scientific-Atlanta, was approximately \$569 million and \$536 million as of July 30, 2016 and July 25, 2015, respectively, and was recorded primarily in other long-term liabilities.

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15. Comprehensive Income

The components of AOCI, net of tax, and the other comprehensive income (loss), excluding noncontrolling interest, are summarized as follows (in millions):

	Net Unrealized Gains on Available-for-Sale Investments	Net Unrealized Gains (Losses) on Cash Flow Hedging Instruments	Cumulative Translation Adjustment and Actuarial Gains and Losses	Accumulated Other Comprehensive Income (Loss)
BALANCE AT JULY 27, 2013	\$ 379	\$ 8	\$ 221	\$ 608
Other comprehensive income (loss) before reclassifications attributable to Cisco Systems, Inc.	380	48	49	477
(Gains) losses reclassified out of AOCI	(300)	(68)	—	(368)
Tax benefit (expense)	(35)	—	(5)	(40)
BALANCE AT JULY 26, 2014	424	(12)	265	677
Other comprehensive income (loss) before reclassifications attributable to Cisco Systems, Inc.	(28)	(159)	(563)	(750)
(Gains) losses reclassified out of AOCI	(157)	154	2	(1)
Tax benefit (expense)	71	1	63	135
BALANCE AT JULY 25, 2015	310	(16)	(233)	61
Other comprehensive income (loss) before reclassifications attributable to Cisco Systems, Inc.	151	(66)	(399)	(314)
(Gains) losses reclassified out of AOCI	1	20	(6)	15
Tax benefit (expense)	(49)	3	(42)	(88)
BALANCE AT JULY 30, 2016	\$ 413	\$ (59)	\$ (680)	\$ (326)

The net gains (losses) reclassified out of AOCI into the Consolidated Statements of Operations, with line item location, during each period were as follows (in millions):

	July 30, 2016	July 25, 2015	July 26, 2014	Line Item in Statements of Operations
Comprehensive Income Components	Income Before Taxes			
Net unrealized gains on available-for-sale investments	\$(1)	\$ 157	\$ 300	Other income (loss), net
Net unrealized gains and losses on cash flow hedging instruments				
Foreign currency derivatives	(15)	(121)	55	Operating expenses
Foreign currency derivatives	(5)	(33)	13	Cost of sales—service
	(20)	(154)	68	
Cumulative translation adjustment and actuarial gains and losses	6	(2)	—	Operating expenses
Total amounts reclassified out of AOCI	\$(15)	\$ 1	\$ 368	

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16. Income Taxes

(a) Provision for Income Taxes

The provision for income taxes consists of the following (in millions):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Federal:			
Current	\$865	\$1,583	\$1,672
Deferred	(93)	43	(383)
	772	1,626	1,289
State:			
Current	78	130	176
Deferred	13	(20)	(64)
	91	110	112
Foreign:			
Current	1,432	530	692
Deferred	(114)	(46)	(231)
	1,318	484	461
Total	\$2,181	\$2,220	\$1,862

Income before provision for income taxes consists of the following (in millions):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
United States	\$2,907	\$3,570	\$2,734
International	10,013	7,631	6,981
Total	\$12,920	\$11,201	\$9,715

The items accounting for the difference between income taxes computed at the federal statutory rate and the provision for income taxes consist of the following:

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Federal statutory rate	35.0 %	35.0 %	35.0 %
Effect of:			
State taxes, net of federal tax benefit	0.5	0.8	0.5
Foreign income at other than U.S. rates	(14.5)	(15.2)	(16.4)
Tax credits	(1.7)	(1.2)	(0.7)
Domestic manufacturing deduction	(0.6)	(0.7)	(0.9)
Nondeductible compensation	1.4	2.0	3.3
Tax audit settlement	(2.8)	—	—
Other, net	(0.4)	(0.9)	(1.6)
Total	16.9 %	19.8 %	19.2 %

During fiscal 2016, the Internal Revenue Service (IRS) and the Company settled all outstanding items related to the audit of the Company's federal income tax returns for the fiscal years ended July 26, 2008 through July 31, 2010. As a result of the settlement, the Company recognized a net benefit to the provision for income taxes of \$367 million, which included a reduction of interest expense of \$21 million. In addition, the Protecting Americans from Tax Hikes Act of 2015 reinstated the U.S. federal R&D tax credit permanently. As a result, the tax provision in fiscal 2016 included a tax benefit of \$226 million related to the U.S. R&D tax credit, of which \$81 million was attributable to fiscal 2015.

During fiscal 2015, the Tax Increase Prevention Act of 2014 reinstated the U.S. federal R&D tax credit for calendar year 2014 R&D expenses. As a result, the tax provision in fiscal 2015 included a tax benefit of \$138 million related to the U.S. R&D tax credit, of which \$78 million was attributable to fiscal 2014.

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U.S. income taxes and foreign withholding taxes associated with the repatriation of earnings of foreign subsidiaries were not provided for on a cumulative total of \$65.6 billion of undistributed earnings for certain foreign subsidiaries as of the end of fiscal 2016. The Company intends to reinvest these earnings indefinitely in its foreign subsidiaries. If these earnings were distributed to the United States in the form of dividends or otherwise, or if the shares of the relevant foreign subsidiaries were sold or otherwise transferred, the Company would be subject to additional U.S. income taxes (subject to an adjustment for foreign tax credits) and foreign withholding taxes. Determination of the amount of unrecognized deferred income tax liability related to these earnings is not practicable.

As a result of certain employment and capital investment actions, the Company's income in certain foreign countries is subject to reduced tax rates. A portion of these incentives expired at the end of fiscal 2015. The majority of the remaining tax incentives will expire at the end of fiscal 2018. The gross income tax benefit attributable to tax incentives was estimated to be \$1.2 billion (\$0.23 per diluted share) in fiscal 2016. As of the end of fiscal 2015 and 2014, the gross income tax benefits attributable to tax incentives were estimated to be \$1.4 billion and \$1.3 billion (\$0.28 and \$0.25 per diluted share) for the respective years. The gross income tax benefits were partially offset by accruals of U.S. income taxes on undistributed earnings.

Unrecognized Tax Benefits

The aggregate changes in the balance of gross unrecognized tax benefits were as follows (in millions):

Years Ended	July 30, July 25, July 26,		
	2016	2015	2014
Beginning balance	\$2,029	\$1,938	\$1,775
Additions based on tax positions related to the current year	255	276	262
Additions for tax positions of prior years	116	137	64
Reductions for tax positions of prior years	(457)	(30)	(13)
Settlements	(241)	(165)	(17)
Lapse of statute of limitations	(75)	(127)	(133)
Ending balance	\$1,627	\$2,029	\$1,938

As a result of the IRS tax settlement related to the federal income tax returns for the fiscal years ended July 26, 2008 through July 31, 2010, the amount of gross unrecognized tax benefits in fiscal 2016 was reduced by approximately \$563 million. The Company also reduced the amount of accrued interest by \$63 million.

As of July 30, 2016, \$1.2 billion of the unrecognized tax benefits would affect the effective tax rate if realized. During fiscal 2016, the Company recognized a \$55 million reduction in net interest expense and a \$40 million reduction in penalties. During fiscal 2015, the Company recognized a \$37 million reduction in net interest expense and a \$3 million reduction in penalties. During fiscal 2014, the Company recognized \$20 million of net interest expense and \$8 million of penalties. The Company's total accrual for interest and penalties was \$154 million, \$274 million, and \$304 million as of the end of fiscal 2016, 2015, and 2014, respectively. The Company is no longer subject to U.S. federal income tax audit for returns covering tax years through fiscal 2010. The Company is no longer subject to foreign, state, or local income tax audits for returns covering tax years through fiscal 2000.

The Company regularly engages in discussions and negotiations with tax authorities regarding tax matters in various jurisdictions. The Company believes it is reasonably possible that certain federal, foreign, and state tax matters may be concluded in the next 12 months. Specific positions that may be resolved include issues involving transfer pricing and various other matters. The Company estimates that the unrecognized tax benefits at July 30, 2016 could be reduced by approximately \$150 million in the next 12 months.

(b) Deferred Tax Assets and Liabilities

The following table presents the breakdown for net deferred tax assets (in millions):

	July 30, July 25,	
	2016	2015
Deferred tax assets	\$4,299	\$4,454
Deferred tax liabilities	(278)	(349)
Total net deferred tax assets	\$4,021	\$4,105

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The following table presents the components of the deferred tax assets and liabilities (in millions):

	July 30, 2016	July 25, 2015
ASSETS		
Allowance for doubtful accounts and returns	\$524	\$417
Sales-type and direct-financing leases	289	266
Inventory write-downs and capitalization	417	345
Investment provisions	126	112
IPR&D, goodwill, and purchased intangible assets	139	134
Deferred revenue	1,858	1,795
Credits and net operating loss carryforwards	863	746
Share-based compensation expense	438	520
Accrued compensation	572	467
Other	516	670
Gross deferred tax assets	5,742	5,472
Valuation allowance	(134)	(84)
Total deferred tax assets	5,608	5,388
LIABILITIES		
Purchased intangible assets	(995)	(950)
Depreciation	(289)	(143)
Unrealized gains on investments	(225)	(175)
Other	(78)	(15)
Total deferred tax liabilities	(1,587)	(1,283)
Total net deferred tax assets	\$4,021	\$4,105

As of July 30, 2016, the Company's federal, state, and foreign net operating loss carryforwards for income tax purposes were \$466 million, \$735 million, and \$809 million, respectively. A significant amount of the federal net operating loss carryforwards relates to acquisitions and, as a result, is limited in the amount that can be recognized in any one year. If not utilized, the federal net operating loss will begin to expire in fiscal 2018, and the state and foreign net operating loss carryforwards will begin to expire in fiscal 2018 and 2017, respectively. The Company has provided a valuation allowance of \$97 million for deferred tax assets related to foreign net operating losses that are not expected to be realized.

As of July 30, 2016, the Company's federal, state, and foreign tax credit carryforwards for income tax purposes were approximately \$8 million, \$734 million, and \$20 million, respectively. The federal tax credit carryforwards will begin to expire in fiscal 2017. The majority of state tax credits can be carried forward indefinitely. The foreign tax credits carryforwards will begin to expire in fiscal 2018. The Company has provided a valuation allowance of \$32 million for deferred tax assets related to state and foreign tax credits that are not expected to be realized.

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17. Segment Information and Major Customers

(a) Revenue and Gross Margin by Segment

The Company conducts business globally and is primarily managed on a geographic basis consisting of three segments: the Americas, EMEA, and APJC. The Company's management makes financial decisions and allocates resources based on the information it receives from its internal management system. Sales are attributed to a segment based on the ordering location of the customer. The Company does not allocate research and development, sales and marketing, or general and administrative expenses to its segments in this internal management system because management does not include the information in its measurement of the performance of the operating segments. In addition, the Company does not allocate amortization and impairment of acquisition-related intangible assets, share-based compensation expense, significant litigation and other contingencies, impacts to cost of sales from purchase accounting adjustments to inventory, charges related to asset impairments and restructurings, and certain other charges to the gross margin for each segment because management does not include this information in its measurement of the performance of the operating segments.

Summarized financial information by segment for fiscal 2016, 2015, and 2014, based on the Company's internal management system and as utilized by the Company's Chief Operating Decision Maker ("CODM"), is as follows (in millions):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Revenue:			
Americas	\$29,411	\$29,655	\$27,781
EMEA	12,281	12,322	12,006
APJC	7,555	7,184	7,355
Total	\$49,247	\$49,161	\$47,142
Gross margin:			
Americas	\$19,006	\$18,670	\$17,379
EMEA	7,976	7,705	7,700
APJC	4,622	4,307	4,252
Segment total	31,604	30,682	29,331
Unallocated corporate items (644)	(644)	(1,001)	(1,562)
Total	\$30,960	\$29,681	\$27,769

Revenue in the United States was \$26.2 billion, \$26.2 billion, and \$24.4 billion for fiscal 2016, 2015, and 2014, respectively.

(b) Revenue for Groups of Similar Products and Services

The Company designs, manufactures, and sells Internet Protocol (IP)-based networking and other products related to the communications and IT industry and provides services associated with these products and their use. The Company groups its products and technologies into the following categories: Switching, NGN Routing, Collaboration, Service Provider Video, Data Center, Wireless, Security, and Other Products. These products, primarily integrated by Cisco IOS Software, link geographically dispersed local-area networks (LANs), metropolitan-area networks (MANs), and wide-area networks (WANs).

The following table presents revenue for groups of similar products and services (in millions):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Revenue:			
Switching	\$14,746	\$14,740	\$14,001
NGN Routing	7,408	7,704	7,606
Collaboration	4,352	4,004	3,817
Data Center	3,365	3,219	2,640
Wireless	2,625	2,542	2,293
Service Provider Video ⁽¹⁾	2,424	3,555	3,969

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Security	1,969	1,747	1,566
Other	365	239	280
Product	37,254	37,750	36,172
Service	11,993	11,411	10,970
Total	\$49,247	\$49,161	\$47,142

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⁽¹⁾ During the second quarter of fiscal 2016, the Company completed the sale of our SP Video CPE Business. As a result, revenue from this portion of the Service Provider Video product category will not recur in future periods. SP Video CPE Business revenue was \$504 million, \$1,846 million, and \$2,240 million for fiscal 2016, 2015 and 2014, respectively.

The Company has made certain reclassifications to the product revenue amounts for prior years to conform to the current year's presentation.

(c) Additional Segment Information

The majority of the Company's assets, excluding cash and cash equivalents and investments, as of July 30, 2016 and July 25, 2015 was attributable to its U.S. operations. The Company's total cash and cash equivalents and investments held by various foreign subsidiaries were \$59.8 billion and \$53.4 billion as of July 30, 2016 and July 25, 2015, respectively, and the remaining \$5.9 billion and \$7.0 billion at the respective fiscal year ends were available in the United States. In fiscal 2016, 2015, and 2014, no single customer accounted for 10% or more of revenue.

Property and equipment information is based on the physical location of the assets. The following table presents property and equipment information for geographic areas (in millions):

	July 30, 2016	July 25, 2015	July 26, 2014
Property and equipment, net:			
United States	\$ 2,822	\$ 2,733	\$ 2,697
International	684	599	555
Total	\$ 3,506	\$ 3,332	\$ 3,252

18. Net Income per Share

The following table presents the calculation of basic and diluted net income per share (in millions, except per-share amounts):

Years Ended	July 30, 2016	July 25, 2015	July 26, 2014
Net income	\$ 10,739	\$ 8,981	\$ 7,853
Weighted-average shares—basic	5,053	5,104	5,234
Effect of dilutive potential common shares	35	42	47
Weighted-average shares—diluted	5,088	5,146	5,281
Net income per share—basic	\$ 2.13	\$ 1.76	\$ 1.50
Net income per share—diluted	\$ 2.11	\$ 1.75	\$ 1.49
Antidilutive employee share-based awards, excluded	148	183	254

Employee equity share options, unvested shares, and similar equity instruments granted by the Company are treated as potential common shares outstanding in computing diluted earnings per share. Diluted shares outstanding include the dilutive effect of in-the-money options, unvested restricted stock, and restricted stock units. The dilutive effect of such equity awards is calculated based on the average share price for each fiscal period using the treasury stock method. Under the treasury stock method, the amount the employee must pay for exercising stock options, the amount of compensation cost for future service that the Company has not yet recognized, and the amount of tax benefits that would be recorded in additional paid-in capital when the award becomes deductible are collectively assumed to be used to repurchase shares.

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Supplementary Financial Data (Unaudited)

(in millions, except per-share amounts)

Quarters Ended	July 30, 2016	April 30, 2016	January 23, 2016	October 24, 2015
Revenue	\$12,638	\$12,000	\$11,927	\$12,682
Gross margin	\$7,975	\$7,721	\$7,432	\$7,832
Operating income	\$3,303	\$2,984	\$3,294	\$3,079
Net income	\$2,813	\$2,349	\$3,147	\$2,430
Net income per share - basic	\$0.56	\$0.47	\$0.62	\$0.48
Net income per share - diluted	\$0.56	\$0.46	\$0.62	\$0.48
Cash dividends declared per common share	\$0.26	\$0.26	\$0.21	\$0.21
Cash and cash equivalents and investments	\$65,756	\$63,512	\$60,375	\$59,107

Quarters Ended	July 25, 2015	April 25, 2015	January 24, 2015	October 25, 2014
Revenue	\$12,843	\$12,137	\$11,936	\$12,245
Gross margin	\$7,733	\$7,525	\$7,090	\$7,333
Operating income	\$2,881	\$2,925	\$2,622	\$2,342
Net income	\$2,319	\$2,437	\$2,397	\$1,828
Net income per share - basic	\$0.46	\$0.48	\$0.47	\$0.36
Net income per share - diluted	\$0.45	\$0.47	\$0.46	\$0.35
Cash dividends declared per common share	\$0.21	\$0.21	\$0.19	\$0.19
Cash and cash equivalents and investments	\$60,416	\$54,419	\$53,022	\$52,107

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Based on our management's evaluation (with the participation of our principal executive officer and principal financial officer), as of the end of the period covered by this report, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, (the "Exchange Act")) are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Internal Control over Financial Reporting

Management's report on our internal control over financial reporting and the report of our independent registered public accounting firm on our internal control over financial reporting are set forth, respectively, on page 69 under the caption "Management's Report on Internal Control Over Financial Reporting" and on page 68 of this report. There was no change in our internal control over financial reporting during our fourth quarter of fiscal 2016 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item relating to our directors and nominees is included under the captions “Proposal No. 1— Election of Directors,” “Business Experience and Qualifications of Nominees,” and “Board Meetings and Committees—Nomination and Governance Committee” in our Proxy Statement related to the 2016 Annual Meeting of Shareholders and is incorporated herein by reference.

The information required by this item regarding our Audit Committee is included under the caption “Proposal No. 1— Election of Directors—Board Meetings and Committees” in our Proxy Statement related to the 2016 Annual Meeting of Shareholders and is incorporated herein by reference.

Pursuant to General Instruction G(3) of Form 10-K, the information required by this item relating to our executive officers is included under the caption “Executive Officers of the Registrant” in Part I of this report.

The information required by this item regarding compliance with Section 16(a) of the Securities Act of 1934 is included under the caption “Ownership of Securities—Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement related to the 2016 Annual Meeting of Shareholders and is incorporated herein by reference.

We have adopted a code of ethics that applies to our principal executive officer and all members of our finance department, including the principal financial officer and principal accounting officer. This code of ethics is entitled “Special Ethics Obligations for Employees with Financial Reporting Responsibilities: Financial Officer Code of Ethics” and is posted on our website. The Internet address for our website is www.cisco.com, and this code of ethics may be found from our main webpage by clicking first on “About Cisco” and then on “Corporate Governance” under “Investor Relations,” and finally on “Financial Officer Code of Ethics”.

We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of this code of ethics by posting such information on our website, on the webpage found by clicking through to “Financial Officer Code of Ethics” as specified above.

Item 11. Executive Compensation

The information required by this item relating to executive compensation is included under the captions “Proposal No. 2 - Advisory Vote to Approve Executive Compensation,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Fiscal 2016 Compensation Tables-Summary Compensation Table,” “Fiscal 2016 Compensation Tables-Grant of Plan-Based Awards-Fiscal 2016” and “Compensation Committee Interlocks and Insider Participation” in our Proxy Statement related to the 2016 Annual Meeting of Shareholders is incorporated herein by reference.

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

The information required by this item relating to security ownership of certain beneficial owners and management is included under the caption “Ownership of Securities,” and the information required by this item relating to securities authorized for issuance under equity compensation plans is included under the caption “Ownership of Securities— Equity Compensation Plan Information,” in each case in our Proxy Statement related to the 2016 Annual Meeting of Shareholders, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item relating to review, approval or ratification of transactions with related persons is included under the caption “Certain Relationships and Transactions with Related Persons,” and the information required by this item relating to director independence is included under the caption “Proposal No. 1— Election of Directors—Independent Directors,” in each case in our Proxy Statement related to the 2016 Annual Meeting of Shareholders, and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this item is included under the captions “Proposal No. 3 — Ratification of Independent Registered Public Accounting Firm—Principal Accountant Fees and Services” and “Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm” in our Proxy Statement related to the 2016 Annual Meeting of Shareholders, and is incorporated herein by reference.

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PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Financial Statements

See the “Index to Consolidated Financial Statements” on page 67 of this report.

2. Financial Statement Schedule

See “Schedule II—Valuation and Qualifying Accounts” (below) within Item 15 of this report.

3. Exhibits

See the “Index to Exhibits” immediately following the signature page of this report.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

(in millions)

	Allowances For Financial Accounts Receivable	
Year ended July 26, 2014		
Balance at beginning of fiscal year	\$ 344	\$ 228
Provisions	14	65
Recoveries (write-offs), net	(9)	(28)
Balance at end of fiscal year	\$ 349	\$ 265
Year ended July 25, 2015		
Balance at beginning of fiscal year	\$ 349	\$ 265
Provisions	57	77
Recoveries (write-offs), net	(7)	(40)
Foreign exchange and other	(17)	—
Balance at end of fiscal year	\$ 382	\$ 302
Year ended July 30, 2016		
Balance at beginning of fiscal year	\$ 382	\$ 302
Provisions	17	(26)
Recoveries (write-offs), net	(15)	(28)
Foreign exchange and other	(9)	1
Balance at end of fiscal year	\$ 375	\$ 249

Foreign exchange and other includes the impact of foreign exchange and certain immaterial reclassifications.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

September 8, 2016 CISCO SYSTEMS, INC.

/S/ CHARLES H. ROBBINS
Charles H. Robbins
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Charles H. Robbins and Kelly A. Kramer, jointly and severally, his attorney-in-fact, each with the full power of substitution, for such person, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might do or could do in person hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his substitute, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ CHARLES H. ROBBINS Charles H. Robbins	Chief Executive Officer and Director (Principal Executive Officer)	September 8, 2016
/S/ KELLY A. KRAMER Kelly A. Kramer	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	September 8, 2016
/S/ PRAT S. BHATT Prat S. Bhatt	Senior Vice President, Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)	September 8, 2016

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Signature	Title	Date
/S/ JOHN T. CHAMBERS John T. Chambers	Executive Chairman	September 8, 2016
Carol A. Bartz	Lead Independent Director	
/S/ M. MICHELE BURNS M. Michele Burns	Director	September 8, 2016
/S/ MICHAEL D. CAPELLAS Michael D. Capellas	Director	September 8, 2016
/S/ BRIAN L. HALLA Brian L. Halla	Director	September 8, 2016
/S/ JOHN L. HENNESSY Dr. John L. Hennessy	Director	September 8, 2016
/S/ KRISTINA M. JOHNSON Dr. Kristina M. Johnson	Director	September 8, 2016
/S/ RODERICK C. MCGEARY Roderick C. McGear	Director	September 8, 2016
/S/ ARUN SARIN Arun Sarin	Director	September 8, 2016
/S/ STEVEN M. WEST Steven M. West	Director	September 8, 2016

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INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Restated Articles of Incorporation of Cisco Systems, Inc., as currently in effect	S-3	333-56004	4.1	2/21/2001	
3.2	Amended and Restated Bylaws of Cisco Systems, Inc., as currently in effect	8-K	000-18225	3.1	7/29/2016	
4.1	Indenture, dated February 17, 2009, between Cisco Systems, Inc. and the Bank of New York Mellon Trust Company, N.A., as trustee	8-K	000-18225	4.1	2/17/2009	
4.2	Indenture, dated November 17, 2009, between Cisco Systems, Inc. and the Bank of New York Mellon Trust Company, N.A., as trustee	8-K	000-18225	4.1	11/17/2009	
4.3	Indenture, dated March 16, 2011, between Cisco Systems, Inc. and the Bank of New York Mellon Trust Company, N.A., as trustee	8-K	000-18225	4.1	3/16/2011	
4.4	Indenture, dated March 3, 2014, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee	8-K	000-18225	4.1	3/3/2014	
4.5	Forms of Global Note for the registrant's 4.95% Senior Notes due 2019 and 5.90% Senior Notes due 2039	8-K	000-18225	4.1	2/17/2009	
4.6	Forms of Global Note for the registrant's 4.45% Senior Notes due 2020 and 5.50% Senior Notes due 2040	8-K	000-18225	4.1	11/17/2009	
4.7	Forms of Global Note for the Company's 3.150% Senior Notes due 2017	8-K	000-18225	4.1	3/16/2011	
4.8	Form of Officer's Certificate setting forth the terms of the Fixed and Floating Rate Notes issued in March 2014	8-K	000-18225	4.2	3/3/2014	
4.9	Form of Officer's Certificate setting forth the terms of the Fixed and Floating Notes issued in June 2015	8-K	000-18225	4.1	6/18/2015	
4.10	Form of Officer's Certificate setting forth the terms of the Fixed and Floating Notes issued in February 2016	8-K	000-18225	4.1	2/29/2016	
10.1*	Cisco Systems, Inc. 2005 Stock Incentive Plan (including related form agreements)					X
10.2*	Cisco Systems, Inc. SA Acquisition Long-Term Incentive Plan (amends and restates the 2003 Long-Term Incentive Plan of Scientific-Atlanta) (including related form agreements)	10-K	000-18225	10.4	9/18/2007	
10.3*	Cisco Systems, Inc. WebEx Acquisition Long-Term Incentive Plan. (amends and restates the WebEx Communications, Inc. Amended and Restated 2000 Stock Incentive Plan) (including related form agreements)	10-K	000-18225	10.5	9/18/2007	
10.4*	Cisco Systems, Inc. Employee Stock Purchase Plan	8-K	000-18225	10.1	11/24/2014	
10.5*	Cisco Systems, Inc. Deferred Compensation Plan, as amended	10-Q	000-18225	10.5	2/18/2015	
10.6*	Cisco Systems, Inc. Executive Incentive Plan	8-K	000-18225	10.1	11/16/2012	
10.7*	Form of Executive Officer Indemnification Agreement	10-K	000-18225	10.7	9/20/2004	
10.8*	Form of Director Indemnification Agreement	10-K	000-18225	10.8	9/20/2004	

10.9* Relocation Agreement between Cisco Systems, Inc. and Charles Robbins 10-Q 000-18225 10.2 11/22/2013

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Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.10*	Letter Agreement by and between Cisco Systems, Inc. and Kelly A. Kramer	8-K	000-18225	10.2	11/24/2014	
10.11*	Transition and Separation Agreement by and between Cisco Systems, Inc. and Frank A. Calderoni	8-K	000-18225	10.3	11/24/2014	
10.12*	Separation Agreement by and between Cisco Systems, Inc. and Robert W. Lloyd	8-K	000-18225	10.1	6/1/2015	
10.13*	Separation Agreement by and between Cisco Systems, Inc. and Gary B. Moore	8-K	000-18225	10.2	6/1/2015	
10.14	Credit Agreement dated as of May 15, 2015, by and among Cisco Systems, Inc. and Lenders party thereto, and Bank of America, N.A., as administration agent, swing line lender and an L/C issuer	10-Q	000-18225	10.1	5/20/2015	
10.15	Form of Commercial Paper Dealer Agreement	10-Q	000-18225	10.1	2/23/2011	
10.16	Commercial Paper Issuing and Paying Agent Agreement dated January 31, 2011 between the Registrant and Bank of America, N.A.	10-Q	000-18225	10.2	2/23/2011	
21.1	Subsidiaries of the Registrant					X
23.1	Consent of Independent Registered Public Accounting Firm					X
24.1	Power of Attorney (included on page 122 of this Annual Report on Form 10-K)					X
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer					X
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer					X
32.1	Section 1350 Certification of Principal Executive Officer					X
32.2	Section 1350 Certification of Principal Financial Officer					X
101.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

*Indicates a management contract or compensatory plan or arrangement.