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 25, 2020

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

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CISCO SYSTEMS, INC.

(Exact name of Registrant as specified in its charter)

California	**77-0059951**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**
170 West Tasman Drive **San Jose, California**	**95134-1706**
(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:	Trading Symbol(s)	Name of Each Exchange on which Registered
Common Stock, par value $0.001 per share	CSCO	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 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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒		Accelerated filer	☐
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	Smaller reporting company	☐
			Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐
Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒
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 24, 2020 as reported by the Nasdaq Global Select Market on that date: $207.1 billion
Number of shares of the registrant's common stock outstanding as of August 28, 2020: 4,233,425,297

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement relating to the registrant's 2020 Annual Meeting of Shareholders, to be held on December 10, 2020, are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated.

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," "continues," "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, future responses to and effects of the COVID-19 pandemic, 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 a broad range of technologies that have been powering the Internet since 1984. We are integrating intent-based technologies across networking, security, collaboration, applications and the cloud. These technologies are designed to help our customers manage more users, devices and things connecting to their networks. This will enable us to provide customers with a highly secure, intelligent platform for their digital business.

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).

Our products and technologies are grouped into the following categories: Infrastructure Platforms; Applications; 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 technologies through software and services. Our customers include businesses of all sizes, public institutions, governments, and service providers. These customers often look to us as a strategic partner to help them use information technology (IT) to differentiate themselves and drive positive business outcomes.

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.

Strategy and Priorities

As our customers add billions of new connections to their enterprises, and as more applications move to a multicloud environment, the network becomes even more critical. Our customers are navigating change at an unprecedented pace and our mission is to inspire new possibilities for them by helping transform their infrastructure, expand applications and analytics, address their security needs, and empower their teams. We believe that our customers are looking for intent-based networks that provide meaningful business value through automation, security, and analytics across private, hybrid, and multicloud environments. Our vision is to deliver highly secure, software-defined, automated and intelligent platforms for our customers.

We are expanding our research and development (R&D) investments in certain product areas including cloud security, cloud collaboration, and application insights and analytics. We are investing to optimize our product offerings for application to education, healthcare and other specific industries. We are also making investments to enable us to increase automation and support the customer as the workplace changes. In addition, we continue to remain focused on investments around Software-Defined Wide Area Network (SD-WAN), multicloud environments, 5G and WiFi-6, 400G speeds, optical networking, next generation silicon and artificial intelligence (AI). We are also accelerating our efforts to enable the delivery of network functionality as a service.

Transforming Infrastructure

Our intent-based networking strategy began with Software-Defined Access (SD-Access) technology, one of our leading enterprise architectures. We announced the initial development of new network product offerings featuring our intent-based networking technology with the launch of the Catalyst 9000 series of switches. Our intent-based networking platform is designed to be intelligent, highly secure, powered by “intent” and informed by “context”— features aiming to constantly learn, adapt, automate and protect in order to optimize network operations and defend against an evolving cyber threat landscape. Our intent-based networking offerings are designed to provide a single, highly secure network fabric that helps ensure policy consistency and network assurance; enables faster launches of new business services; and significantly improves issue resolution times while being open and extendable. SD-Access, built on the principles of Cisco Digital Networking Architecture (DNA), provides what we see as a transformational shift in the building and managing of networks. Our Catalyst 9000 series of switches represented the initial build in our campus portfolio of our intent-based networking capabilities and provide highly differentiated advancements in security, programmability, and performance while lowering operating costs through innovations in hardware and software.

Since the initial launch, we have continued to transform our enterprise access portfolio by bringing together several technologies to form the only integrated, intent-based architecture, with security at the foundation. This architecture is designed to help our customers connect their users and devices over any network, to applications and data, no matter where they are.

We have introduced several innovations that extend our intent-based networking capabilities to wireless and enterprise routing products, including SD-WAN and Internet of Things (IoT) edge platforms. Our SD-WAN solutions are designed to provide direct branch to cloud connectivity, enabling the workforce to access their software-as-a-service (SaaS) applications and workloads in an optimized and highly secure manner.

To further our innovation in this area, we are applying the latest technologies such as machine learning and advanced analytics to operate and enhance network capabilities. These new network product offerings are designed to enable customers to detect cybersecurity threats, for instance in encrypted traffic. We have created what is in our view the only network that is designed for security while maintaining privacy.

Our customers are operating in multicloud environments with private, public and hybrid clouds. For the data center, our strategy is to deliver multicloud architectures that bring policy and operational consistency regardless of where applications or data reside by extending our Application Centric Infrastructure (ACI) and our hyperconverged offerings.

In fiscal 2020, we announced details of our technology strategy for the Internet for the Future aimed at addressing the broad adoption of multicloud and application environments. We have made significant investments in the development of software, silicon and optics — what we believe are the building blocks for the Internet for the future.

We introduced Cisco Silicon One, a single unified silicon architecture, as well as the Cisco 8000 carrier-class router family built on Silicon One and our new operating system.

Applications and Analytics

In our view, over the next several years, customers will be increasingly writing modern software applications that can run on any hybrid cloud, and will be adding billions of connections to their environment. They will need to be able to build applications quickly, deploy them nearly anywhere, monitor experiences, and act in real time.

We believe we are uniquely positioned to enable successful business outcomes for customers in hybrid and multicloud environments. In our view, the network is increasingly critical to business success and we believe our customers will benefit from the insights and intelligence that we are making accessible through our highly differentiated platforms.

As our customers navigate the multicloud world, the need to connect new devices, protect their assets and monitor cloud consumption, they will require advisory cloud services that are provided in a consistent manner. We are focused on enabling simple, intelligent, automated and highly secure clouds by delivering the infrastructure to navigate complex IT environments through our software and subscription-based offerings including Webex, Meraki cloud networking, and certain other Security and Application offerings. We believe that customers and partners view our approach to the cloud as differentiated and unique, recognizing that we offer a solution for all cloud environments, including private, hybrid and public clouds.

Security is Foundational

We believe data is one of our customers' most strategic assets, and this data is increasingly distributed across every organization and ecosystem, on customer premises, at the edge of the network, and in the cloud. As such, we believe that security is the top IT priority for many of our customers. Our security strategy is focused on delivering an effective cybersecurity architecture combining network, cloud and endpoint-based solutions. Our portfolio is designed to prevent, detect, and remediate a cyber-attack and to integrate security across networking domains. Our intent is to enable our customers to secure their networks for a multicloud world by delivering a platform that continuously detects threats and verifies trust. By combining a number of security technologies, we are delivering an end-to-end, zero-trust architecture. Additionally, through our offerings we help our customers shorten the time between threat detection and response.

Empowering Teams

Our customers' communications continue to evolve as we move to a digital, cloud-based world. As people are an important competitive advantage for our customers, teams need effective and simple ways to work better together and interact with their customers to build better relationships and increase collaboration. As an example, we believe our collaboration portfolio which includes our subscription-based Webex conferencing platform, is at the center of our customers' strategy for enabling teams to increase productivity.

Transforming our Business Model

We are transforming our offerings to meet the evolving needs of our customers. Historically, our various networking technology products have aligned with their respective product categories. However, increasingly our offerings are crossing multiple product categories. As our core networking evolves, we expect we will add more common software features across our core networking platforms. We are increasing the amount of software offerings that we provide and the proportion of subscription software offerings. We have various types of software arrangements including system software, on premise software, hybrid software and SaaS offerings. In terms of monetization, our software offerings fall into the broad categories of subscription arrangements, including SaaS and term licenses, and perpetual licenses.

As part of the transformation of our business, we continued to make strides during fiscal 2020 to develop and sell more software and subscription-based offerings. We are also focused on the entire customer lifecycle to drive expansion and renewals.

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 services, and enhancements to existing products and services, 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 19 to the Consolidated Financial Statements.

Products and Services

Our products and services are grouped into the following categories:

Infrastructure Platforms

Infrastructure Platforms consist of our core networking technologies of switching, routing, wireless, and data center products that are designed to work together to deliver networking capabilities and transport and/or store data. These technologies consist of both hardware and software offerings that help our customers build networks, automate, orchestrate, integrate, and digitize data. We believe it is critical for us to continue to deliver continuous value to our customers. We continued to make progress in shifting more of our business to software and subscriptions across our core networking portfolio, and in expanding our software offerings. Our objective is to continue moving to cloud-managed solutions across our enterprise networking portfolio. We continue to expand on our intent-based infrastructure, which focuses on simplicity, automation, and security, allowing enterprises to manage and govern the interactions of users, devices and applications across their IT environments. We started with our Nexus 9000 series of switches for the data center, which along with ACI provide enhancements in security, programmability and performance while lowering operating costs. Our Cisco Catalyst 9000 series of switches were developed for security, mobility, IoT, and the cloud. These switches formed the foundation for our leading enterprise architectures, built on the principles of Cisco DNA. We continued to expand on this technology by extending SD-Access and Cisco DNA Center across our enterprise networking portfolio and by extending ACI to the public and private cloud. In addition, we now have a unified operating system and policy management platform for our enterprise networking portfolio to drive simplicity and consistency across our customers' networks.

Our switching portfolio encompasses campus switching as well as data center switching offerings. Our campus switching offerings provide the foundation for converged data, voice, video, and IoT services. These switches offer enhanced security and reliability and are designed to scale efficiently as our customers grow. Within campus switching are our Catalyst 9000 series of switches that include hardware with embedded software, along with a software subscription referred to as Cisco DNA. Cisco DNA provides automation, analytics and security features and can be centrally monitored, managed, and configured. Our data center switching offerings provide the foundation for mission critical data centers with high availability, scalability, and security across traditional data centers and private and public cloud data centers. We continue to add deeper and broader visibility and analytics across our networks and applications, enabling us to deliver better experiences for our customers.

Our routing portfolio interconnects public and private wireline and mobile networks, delivering highly secure and reliable connectivity to campus, data center and branch networks. Our routing solutions are designed to meet the scale, reliability, and security needs of our customers. We introduced the principles of Cisco DNA into our routing portfolio by integrating SD-WAN into our offerings. In fiscal 2020, we launched the Cisco 8000 portfolio, a family of high density, low power next generation routing platforms focused on our customers' evolution to support 100G and 400G connectivity speeds.

Our Wireless portfolio provides indoor and outdoor wireless coverage designed for seamless roaming use of voice, video, and data applications. These products include wireless access points that are standalone, controller appliance-based, switch-converged, and Meraki cloud-managed offerings. We expanded our capabilities to include network assurance and automation through Cisco DNA and Cisco DNA Spaces location-based services. Our Catalyst and Meraki Wi-Fi 6-based access points are designed for high-density public or private environments to improve speed, performance, and capacity for wireless networking in both homes and enterprises.

Our Data Center portfolio incorporates various technologies and solutions including the Cisco Unified Computing System, our hyperconverged offering, HyperFlex, and software management capabilities which combine computing, networking, and storage infrastructure management and virtualization to deliver agility, simplicity and scale. These products are designed to extend the power and simplicity of unified computing for data-intensive workloads, applications at the edge of the network, and the next generation of distributed application architectures.

Applications

The Applications product category consists primarily of software-related offerings that utilize the core networking and data center platforms to provide their functions. Our Applications offerings consist of both hardware and software-based solutions, including both software licenses and software-as-a-service. Applications include our collaboration offerings (unified communications, Cisco TelePresence and conferencing) as well as AppDynamics and IoT software offerings.

Our Collaboration strategy is to make communications more effective, comprehensive, and less complex by creating innovative solutions through combining the power of software, hardware, and the network. We offer end-to-end solutions which can be delivered from the cloud, premise or mixed environments, and which integrate voice, video, and messaging on fixed and mobile networks across a wide range of devices/endpoints such as mobile phones, tablets, desktop and laptop computers, video units, and collaboration appliances. Our Cognitive Collaboration integrates AI and machine learning across the Webex portfolio, bringing intelligence and context to help our customers work smarter and increase productivity. Our Webex Cloud Contact Center solution is designed to provide the agility, flexibility, scalability, security, efficiency and innovation in order to enable better customer experiences for businesses and their customers. For on-premise collaboration markets, we launched multi-party Internet Protocol (IP) Phones to extend our reach into third-party call control platforms as well as a new series of telephony headsets which offer innovative integration with our market leading IP phone business.

Our analytics solutions seek to help businesses deliver consistently high-quality digital experiences by connecting end-user experience and application performance to business outcomes. Our applications monitor, correlate, analyze, and act on application performance and business performance data in real time. This automated, cross-stack intelligence enables developers, IT operations, and business owners to make mission critical and strategic improvements.

We continue to invest in IoT as the number of connected IoT devices continues to grow. Our Control Center Platform enables enterprises to automate the lifecycle of connected devices, including tools designed to automatically and remotely onboard, manage, and monetize their IoT devices.

Security

The Security product category primarily includes our network security, cloud and email security, identity and access management, advanced threat protection, and unified threat management products. Our offerings are powered by cloud-delivered threat intelligence based on our Cisco Talos technology. All of these products are part of our integrated cybersecurity architecture that is designed to allow our customers to confront risks by continuously defending against threats and verifying trust, across their environments. Regardless of size or industry, security continues to be a leading priority for our customers as they defend against ongoing ransomware and account breaches that represent risk of compromise and economic loss to their businesses.

We continue to integrate security across our portfolio as we believe our security solutions can help build a foundation of trust between users, devices, and applications; across clouds, networks, and mobile workers. When targeted, our solutions help prevent attacks by continuously detecting and remediating the most advanced threats.

In fiscal 2020, we continued to invest in cloud-delivered security and extended our security platform with the launch of SecureX. These investments included extending our zero-trust architecture with the on-going integration of Duo Security (“Duo”) and integrating Umbrella with our SD-WAN solutions to help secure our customer's network transformation toward a secure access service edge (SASE). Building on our integrated architecture, we launched SecureX, a security platform that brings together the breadth of the Cisco Security portfolio helping our customers accelerate responsiveness across the security lifecycle.

Other Products

Our Other Products category primarily consists of our cloud and system management and emerging technologies products.

Services

In addition to our product offerings, we provide a broad range of service and support options for our customers. Our overall service and support offerings are combined into one organization, Customer Experience, that is responsible for the end-to-end customer experience.

Our support and maintenance services help our customers ensure their products operate efficiently, remain available, and benefit from the most up-to-date system, and application software. These services help customers protect their network investments, manage risk, and minimize downtime for systems running mission-critical applications. A key example is Cisco Smart Services, 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. We have expanded these offerings from traditional hardware support to software, solutions, and premium support.

We also provide comprehensive advisory services that are focused on responsive, preventive, and consultative support of our technologies for specific networking needs. We are investing in and expanding advisory services in the areas of software, cloud, security, and analytics, which reflects our strategy of selling customer outcomes. We are focused on three priorities including, utilizing technology advisory services to drive higher product and services; assessment and migration services providing the tools, expertise and methodologies to enable our customers to migrate to new technology platforms; and providing optimization services aligned with customers' business expectations.

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 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, web-scale operators 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, content-based and application-based services. Service providers use a variety of our products 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 multi-vendor 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 2020, our worldwide sales and marketing functions consisted of approximately 25,800 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 typically hold inventory and 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. Starting in fiscal 2019, in connection with the adoption of Accounting Standards Codification (ASC) 606, *Revenue from Contracts with Customers*, a new accounting standard related to revenue recognition, we started recognizing revenue from two-tier distributors on a sell-in method. Prior to this, we recognized revenue 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, receive certain rebates, and participate in various cooperative marketing programs.

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 "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 "Cyber-attacks, data breaches or malware may disrupt our operations, harm our operating results and financial condition, and damage our reputation, and cyber-attacks or data breaches on our customers' networks, or in cloud-based services provided by or enabled by us, could result in claims of liability against us, damage our reputation or otherwise harm our business," 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

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 “build, buy, partner, invest, and co-develop”. This five-prong approach to how we innovate can be summarized as follows:

Build	Working within Cisco, with the developer community, or with customers
Buy	Acquiring or divesting, depending on goals
Partner	Strategically partnering to further build out the business
Invest	Making investments in areas where technology is in its infancy or where there is no dominant technology
Co-develop	Developing new solutions with multi-party teams that may include customers, channel partners, startups, independent software vendors, and academics

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 generate revenue. 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 added or expanded strategic alliances during fiscal 2020 and in recent years include Apple, Google, Microsoft, and Amazon Web Services, among 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 designed to transport, and help secure data, voice, and video traffic across cloud, private and public networks 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 (in each case relative to only some of our products or services) include: Amazon Web Services LLC; Arista Networks, Inc.; Broadcom Inc.; CommScope Holding Company, Inc.; Check Point Software Technologies Ltd.; Dell Technologies Inc.; Dynatrace; F5 Networks, Inc.; FireEye, Inc.; Fortinet, Inc.; Hewlett-Packard Enterprise Company; Huawei Technologies Co., Ltd.; Juniper Networks, Inc.; Lenovo Group Limited; LogMeIn, Inc.; Microsoft Corporation; New Relic, Inc.; Nokia Corporation; Nutanix, Inc.; Palo Alto Networks, Inc.; RingCentral, Inc.; Slack Technologies, Inc.; Ubiquiti Networks; VMware, Inc.; Zoom Video Communications, Inc.; and Zscaler, 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 (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 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 providing continuous new customer value and 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 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 Infrastructure Platforms, Applications, Security, and Other Product technologies. Our research and development 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 our intent-based networking technologies (which encompasses switching, routing, and wireless technologies within Infrastructure Platforms), conferencing, security, and analytics products. 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 Internet working 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 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 standards.

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 amounts covered by orders or forecasts that we submit covering discrete periods of time.

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 25, 2020
Employees by geography:	
United States	38,900
Rest of world	38,600
Total	77,500
Employees by line item on the Consolidated Statements of Operations:	
Cost of sales [(1)]	22,100
Research and development	22,200
Sales and marketing	25,800
General and administrative	7,400
Total	77,500

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

Information about our Executive Officers

The following table shows the name, age, and position as of August 31, 2020 of each of our executive officers:

Name	Age	Position with the Company
Charles H. Robbins	54	Chairman and Chief Executive Officer
Mark Chandler	64	Executive Vice President, Chief Legal Officer and Chief Compliance Officer
Gerri Elliott	64	Executive Vice President and Chief Sales and Marketing Officer
Kelly A. Kramer	53	Executive Vice President and Chief Financial Officer
Maria Martinez	62	Executive Vice President and Chief Customer Experience Officer
Irving Tan	50	Executive Vice President, Chief of Operations

Mr. Robbins has served as Chief Executive Officer since July 2015, as a member of the Board of Directors since May 2015 and as Chairman of the Board since December 2017. 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. He is a member of the board of directors of BlackRock, Inc.

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. In June 2018, Mr. Chandler was promoted to Executive Vice President and Chief Legal Officer. Before joining StrataCom, Mr. Chandler had served as Vice President, Corporate Development and General Counsel of Maxtor Corporation.

Ms. Elliott joined Cisco in April 2018. Ms. Elliott is a former Executive Vice President of Juniper Networks, Inc., where she served as EVP and Chief Customer Officer from March 2013 to February 2014, EVP and Chief Sales Officer from July 2011 to March 2013 and EVP, Strategic Alliances from June 2009 to July 2011. Before joining Juniper, Ms. Elliott held a series of senior executive positions with Microsoft Corporation from 2001-2008 including Corporate Vice President of Microsoft's Industry Solutions Group, Worldwide Public Sector and North American Enterprise Sales organizations. Prior to joining Microsoft Corporation, Ms. Elliott spent 22 years at IBM Corporation, where she held several senior executive positions both in the U.S. and internationally. Since 2014 Ms. Elliott has served as a director on several public company boards including Whirlpool Corporation (since 2014), Bed Bath & Beyond, Inc. (2014-17), Imperva, Inc. (2015-18), Marvell Technology Group Ltd. (2017-18) and Mimecast Ltd. (2017-18), and during this period she also founded and led the development of Broadrooms.com, an informational resource for executive women who serve or want to serve on corporate boards in the U.S.

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. On August 12, 2020, Ms. Kramer notified Cisco of her decision to resign from Cisco. She will continue to serve in her role until such time as a replacement is appointed.

Ms. Martinez joined Cisco in April 2018. Prior to joining Cisco, she served in a variety of senior executive roles at Salesforce.com, inc. including President, Global Customer Success and Latin America from March 2016 to April 2018; President, Sales and Customer Success from February 2013 to March 2016; Executive Vice President and Chief Growth Officer from February 2012 to February 2013; and Executive Vice President, Customers for Life from February 2010 to February 2012. Ms. Martinez's experience prior to Salesforce includes Corporate Vice President of Worldwide Services at Microsoft Corporation, President and Chief Executive Officer of Embrace Networks, Inc. and various senior leadership roles at Motorola, Inc. and AT&T Inc./Bell Laboratories. Ms. Martinez is a member of the board of directors of McKesson Corporation and was a member of the board of directors of Plantronics, Inc. from September 2015 to April 2018.

Mr. Tan joined Cisco in December 2005, serving in manager-level and director-level positions within Cisco's Sales and Managed Services functions until March 2008, at which time he joined Hewlett Packard Corporation as General Manager of its Communications and Media Solutions Group in Asia Pacific and Japan. In April 2009, Mr. Tan rejoined Cisco, serving as Sales Director in charge of Malaysia and Singapore, and in February 2013 he was promoted to Vice President, Sales with responsibility for the Southeast Asia region. In April 2014, Mr. Tan was promoted to Senior Vice President, Sales with responsibility for Cisco's APJ geography. In January 2018, Mr. Tan was promoted to Senior Vice President, Chief of Operations, and was promoted to Executive Vice President, Chief of Operations effective as of July 28, 2019. Mr. Tan is a member of the board of directors of Stanley Black & Decker, Inc.

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 BUSINESS, RESULTS OF OPERATIONS AND FINANCIAL CONDITION HAVE BEEN ADVERSELY AFFECTED AND COULD IN THE FUTURE BE MATERIALLY ADVERSELY AFFECTED BY THE COVID-19 PANDEMIC

The COVID-19 pandemic and the resulting containment measures have caused economic and financial disruptions globally, including in most of the regions in which we sell our products and services and conduct our business operations. In the second half of fiscal 2020, the COVID-19 pandemic had an impact on our financial results and business operations, with a significant impact in the third quarter of fiscal 2020 on our supply chain where we saw manufacturing challenges and component constraints. The magnitude and duration of the disruption, its continuing impact on us, and resulting decline in global business activity is uncertain. These disruptions include the unprecedented actions taken to try to contain the pandemic such as travel bans and restrictions, business closures, and social distancing measures, such as quarantines and shelter-in-place orders.

The COVID-19 pandemic and the responsive measures taken in many countries have adversely affected and could in the future materially adversely affect our business, results of operations and financial condition. Shelter-in-place orders and other measures, including work-from-home and other policies implemented to protect workers, has and could in the future impact our supply chain. Vendors may be under pressure to allocate product to certain customers for business, regulatory or political reasons, and/or demand changes in agreed pricing as a condition of supply. Such disruptions may continue, or worsen, in the future. In addition, current and future restrictions or disruptions of transportation, such as reduced availability of air transport, port closures, and increased border controls or closures, can also impact our ability to meet customer demand and could materially adversely affect us. Our customers have also experienced, and may continue to experience, disruptions in their operations, which can result in delayed, reduced, or canceled orders, and increased collection risks, and which may adversely affect our results of operations. The COVID-19 pandemic may also result in long-term changes in customer needs for our products and services in various sectors, along with IT-related capital spending reductions, or shifts in spending focus, that could materially adversely affect us if we are unable to adjust our product and service offerings to match customer needs.

The recent shift to a remote working environment also creates challenges. For example, governmental lockdowns, restrictions or new regulations has and could in the future impact the ability of our employees and vendors to work with the same speed and productivity in certain areas, even as other areas do not see negative impact. The extent and/or duration of ongoing workforce restrictions and limitations could impact our ability to enhance, develop and support existing products and services, and hold product sales and marketing events to the extent we were able to previously. In addition, malefactors are seeking to use the COVID-19 pandemic to launch new cyber-attacks. See the risk factors below entitled "Cyber-attacks, data breaches or malware may disrupt our operations, harm our operating results and financial condition, and damage our reputation, and cyber-attacks or data breaches on our customers' networks, or in cloud-based services provided by or enabled by us, could result in claims of liability against us, damage our reputation or otherwise harm our business" and "Vulnerabilities and critical security defects, prioritization decisions regarding remedying vulnerabilities or security defects, failure of third party providers to remedy vulnerabilities or security defects, or customers not deploying security releases or deciding not to upgrade products, services or solutions could result in claims of liability against us, damage our reputation or otherwise harm our business."

The COVID-19 pandemic has also led to increased disruption and volatility in capital markets and credit markets. The pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future. The inputs into certain of our judgments, assumptions, and estimates considered the economic implications of the COVID-19 pandemic on our critical and significant accounting estimates. The actual results that we experience may differ materially from our estimates. As the COVID-19 pandemic continues to develop, many of our estimates could require increased judgment and carry a higher degree of variability and volatility. As events continue to evolve our estimates may change materially in future periods.

We are continuing to monitor the pandemic and take appropriate actions in accordance with the recommendations and requirements of relevant authorities. The extent of the impact of the COVID-19 pandemic on our operational and financial performance is currently uncertain and will depend on many factors outside our control, including, without limitation, the timing, extent, trajectory and duration of the pandemic, the development and availability of effective treatments and vaccines, the imposition of protective public safety measures, and the impact of the pandemic on the global economy. Potential negative impacts of these external factors include, but are not limited to, material adverse effects on demand for our products and services; our supply chain and sales and distribution channels; collectability of customer accounts; our ability to execute strategic plans; impairments; and our profitability and cost structure. To the extent the COVID-19 pandemic adversely affects our business, results of operations and financial condition, it may also have the effect of exacerbating the other risks discussed in this "Risk Factors" section.

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 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, and in emerging technologies, as well as the adoption of new standards
- The transformation of our business to deliver more software and subscription offerings where 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
- 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
- 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 continues to be challenging and inconsistent, and is being significantly impacted by the COVID-19 pandemic. During fiscal 2020, we continued to see a more broad-based weakening in the global macroeconomic environment which impacted our commercial and enterprise markets. We also experienced continuing weakness in the service provider market and emerging countries, and we expect ongoing uncertainty in these markets. Additionally, 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 United Kingdom “Brexit” withdrawal 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 product orders in fiscal 2020, and in certain prior periods.

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 INFRASTRUCTURE PLATFORMS AND IN 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 and Applications, while also focusing on maintaining leadership in Infrastructure Platforms and in 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.

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, the significant impacts of the COVID-19 pandemic, and related market uncertainty. During fiscal 2020, we continued to see a more broad-based weakening in the global macroeconomic environment which impacted our commercial and enterprise markets. We also experienced continuing weakness in the service provider market and emerging countries, and we expect ongoing uncertainty in these markets.

Our revenue may grow at a slower rate than in past periods or decline as it did during fiscal 2020, and in certain prior periods 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 more variability and less predictability in our 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 2020, our level of product gross margins declined in the fourth quarter of fiscal 2020 and have declined in certain prior periods on a year-over-year basis, and could decline in future periods 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 including the transformation of our business to deliver more software and subscription offerings
- 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 such as those impacting the market for memory components
- Excess inventory and inventory holding charges
- Obsolescence charges
- Changes in shipment volume
- The timing of revenue recognition and revenue deferrals
- Increased cost (including those caused by tariffs), 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 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 other Infrastructure Platforms and Applications products, in addition to longer sales cycles. Service provider product orders decreased during fiscal 2020 and in certain prior periods, and at various times in the past, including in recent quarters, we have experienced significant weakness in product orders from service providers. Product orders from the service provider market could continue to decline and, as has been the case in the past, such 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, political or regulatory 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 sales to the end customer. 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 areas, and in key priority and growth areas. For example, as products related to network programmability, such as software defined networking (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 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 providing continuous new customer value and 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.

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 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. Our distributors 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
- 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, including disruptions on our global supply chain as a result of the COVID-19 pandemic; 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 adversely affect our gross margins. For additional information regarding our purchase commitments with contract manufacturers and suppliers, see Note 14 to the Consolidated Financial Statements.

WE DEPEND UPON THE DEVELOPMENT OF NEW PRODUCTS AND SERVICES, AND ENHANCEMENTS TO EXISTING PRODUCTS AND SERVICES, 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 and services are characterized by rapidly changing technology, evolving industry standards, new product and service introductions, and evolving methods of building and operating networks. Our operating results depend on our ability to develop and introduce new products and services into existing and emerging markets and to reduce the production costs of existing products. If customers do not purchase and/or renew our offerings our business could be harmed. The COVID-19 pandemic may also result in long-term changes in customer needs for our products and services in various sectors, along with IT-related capital spending reductions, or shifts in spending focus, that could materially adversely affect us if we are unable to adjust our product and service offerings to match customer needs.

The process of developing new technology, including intent-based networking, 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 strategic priorities to developing new products and services before knowing whether our investments will result in products and services 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. In addition, our business could be adversely affected in periods surrounding our new product introductions if customers delay purchasing decisions to qualify or otherwise evaluate the new product offerings.

We have also been transforming our business to move from selling individual products and services to selling products and services integrated into architectures and solutions, and we are seeking to meet the evolving needs of customers which include offering our products and solutions in the manner in which customers wish to consume them. As a part of this transformation, we continue to make changes to how we are organized and how we build and deliver our technology, including changes in our business models with customers. 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 and services depends on several factors, including proper new product and service definition, component costs, timely completion and introduction of these products and services, differentiation of new products and services from those of our competitors, and market acceptance of these products and services. There can be no assurance that we will successfully identify new product and services opportunities, develop and bring new products and services to market in a timely manner, or achieve market acceptance of our products and services or that products, services and technologies developed by others will not render our products, services or technologies obsolete or noncompetitive. The products and technologies in our other product categories and key priority and 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 and services.

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 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.

We initiated a restructuring plan in the first quarter of fiscal 2021, which includes a voluntary early retirement program. 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 and Applications, and we also intend to focus on maintaining leadership in Infrastructure Platforms and in 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
- 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 legal structure
- Incur large 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.

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 services, and enhancements to existing products and services, 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, 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.

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 2017 we recorded a charge to product cost of sales of $125 million related to the expected remediation costs for anticipated failures in future periods of a widely-used component sourced from a third party which is included in several of our products, and 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. Our business in emerging countries in the aggregate experienced a decline in orders in fiscal 2020, and in certain prior periods. We continue to assess the sustainability of any improvements in our business 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 regulatory matters, affect the willingness of customers in those countries to purchase products from companies headquartered in the United States or affect our ability to procure components if a government body were to deny us access to those components; government-related disruptions or shutdowns; 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 protection measures, trade protection measures such as tariffs, 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 or affect our ability to procure components
- Political considerations that affect service provider and government spending patterns
- Health or similar issues, including pandemics or epidemics such as the COVID-19 pandemic which could continue to affect customer purchasing decisions
- Difficulties in staffing and managing international operations
- Adverse tax consequences, including imposition of withholding or other taxes on our global operations

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 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. Our portfolio includes available-for-sale debt investments and equity investments, the values of which are subject to market price volatility. 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. Our non-marketable equity and other investments 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. For information regarding the market risks associated with the fair value of portfolio investments and interest rates, refer to the section titled "Quantitative and Qualitative Disclosures About Market Risk."

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.

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 14(e) 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.

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 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. 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 remaining asserted claims by Brazilian state and federal tax authorities aggregate to $155 million for the alleged evasion of import and other taxes, $756 million for interest, and $383 million for various penalties, all determined using an exchange rate as of July 25, 2020. 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 Note 14 to the Consolidated Financial Statements, subsection (f) "Legal Proceedings."

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, foreign-derived intangible income, global intangible low-tax income and base erosion and anti-abuse tax laws, regulations, or interpretations thereof; by expiration of or lapses in tax incentives; by transfer pricing adjustments, including the effect of acquisitions on our 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 changes to the taxation of earnings of our foreign subsidiaries, the deductibility of expenses attributable to foreign income, and 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 37 countries, including the United States, has 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 was 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.

CYBER-ATTACKS, DATA BREACHES OR MALWARE MAY DISRUPT OUR OPERATIONS, HARM OUR OPERATING RESULTS AND FINANCIAL CONDITION, AND DAMAGE OUR REPUTATION, AND CYBER-ATTACKS OR DATA BREACHES ON OUR CUSTOMERS' NETWORKS, OR IN CLOUD-BASED SERVICES PROVIDED BY OR ENABLED BY US, COULD RESULT IN CLAIMS OF LIABILITY AGAINST US, DAMAGE OUR REPUTATION OR OTHERWISE HARM OUR BUSINESS

Despite our implementation of 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 breaches, malware, and similar disruptions from unauthorized access or tampering by malicious actors or inadvertent error. Any such event could compromise our products, services, and networks or those of our customers, and the information stored on our systems or those of our customers could be improperly accessed, processed, disclosed, lost or stolen, which could subject us to liability to our customers, suppliers, business partners and others, give rise to legal/regulatory action, 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 actors 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 security in our customers' networks, or in cloud-based services provided by or enabled by us, regardless of whether the breach is attributable to a vulnerability in our products or services, could result in claims of liability against us, damage our reputation or otherwise harm our business.

VULNERABILITIES AND CRITICAL SECURITY DEFECTS, PRIORITIZATION DECISIONS REGARDING REMEDYING VULNERABILITIES OR SECURITY DEFECTS, FAILURE OF THIRD PARTY PROVIDERS TO REMEDY VULNERABILITIES OR SECURITY DEFECTS, OR CUSTOMERS NOT DEPLOYING SECURITY RELEASES OR DECIDING NOT TO UPGRADE PRODUCTS, SERVICES OR SOLUTIONS COULD RESULT IN CLAIMS OF LIABILITY AGAINST US, DAMAGE OUR REPUTATION OR OTHERWISE HARM OUR BUSINESS

The products and services we sell to customers, and our cloud-based solutions, inevitably contain vulnerabilities or critical security defects which have not been remedied and cannot be disclosed without compromising security. We may also make prioritization decisions in determining which vulnerabilities or security defects to fix, and the timing of these fixes, which could result in an exploit which compromises security. Customers also need to test security releases before they can be deployed which can delay implementation. In addition, we rely on third-party providers of software and cloud-based service and we cannot control the rate at which they remedy vulnerabilities. Customers may also not deploy a security release, or decide not to upgrade to the latest versions of our products, services or cloud-based solutions containing the release, leaving them vulnerable. Vulnerabilities and critical security defects, prioritization errors in remedying vulnerabilities or security defects, failure of third-party providers to remedy vulnerabilities or security defects, or customers not deploying security releases or deciding not to upgrade products, services or solutions could result in claims of liability against us, damage our reputation or otherwise harm our business.

TERRORISM AND OTHER EVENTS MAY HARM OUR BUSINESS, OPERATING RESULTS AND FINANCIAL CONDITION

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 in the past 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 2020, we have senior unsecured notes outstanding in an aggregate principal amount of $14.5 billion that mature at specific dates from calendar year 2021 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 $10.0 billion, and we had no commercial paper notes outstanding under this program as of July 25, 2020. The outstanding senior unsecured notes bear fixed-rate interest payable semiannually. 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. 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.

Item 1B. Unresolved Staff Comments

None.

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 Boxborough, 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. Other significant sites (in addition to the two non-U.S. headquarters locations) are located in Australia, Belgium, Canada, China, Germany, India, Japan, Mexico, 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.

Item 3. Legal Proceedings

For a description of our material pending legal proceedings, see Note 14 "Commitments and Contingencies - (f) Legal Proceedings" of the Notes to Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

(a) 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 2020 and 2019 may be found in Supplementary Financial Data on page 104 of this report. There were 37,920 registered shareholders as of August 28, 2020.

(b) None.

(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
April 26, 2020 to May 23, 2020	—	$ —	—	$ 10,841
May 24, 2020 to June 20, 2020	—	$ —	—	$ 10,841
June 21, 2020 to July 25, 2020	—	$ —	—	$ 10,841
Total	—	$ —	—	

On September 13, 2001, we announced that our Board of Directors had authorized a stock repurchase program. As of July 25, 2020, the remaining authorized amount for stock repurchases under this program, including the additional authorization, is approximately $10.8 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 15 to the Consolidated Financial Statements).

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

chart10.jpg

	July 2015	July 2016	July 2017	July 2018	July 2019	July 2020
Cisco Systems, Inc.	$ 100.00	$ 111.26	$ 118.93	$ 165.80	$ 226.27	$ 191.66
S&P 500	$ 100.00	$ 106.87	$ 124.10	$ 144.26	$ 158.02	$ 171.27
S&P Information Technology	$ 100.00	$ 110.10	$ 143.32	$ 185.90	$ 216.69	$ 280.40

Item 6. Selected Financial Data

Five Years Ended July 25, 2020 (in millions, except per-share amounts)

Years Ended	July 25, 2020	July 27, 2019 (1)(2)	July 28, 2018 (1)(3)	July 29, 2017	July 30, 2016 (4)(5)
Revenue	**$ 49,301**	$ 51,904	$ 49,330	$ 48,005	$ 49,247
Net income	**$ 11,214**	$ 11,621	$ 110	$ 9,609	$ 10,739
Net income per share—basic	**$ 2.65**	$ 2.63	$ 0.02	$ 1.92	$ 2.13
Net income per share—diluted	**$ 2.64**	$ 2.61	$ 0.02	$ 1.90	$ 2.11
Shares used in per-share calculation—basic	**4,236**	4,419	4,837	5,010	5,053
Shares used in per-share calculation—diluted	**4,254**	4,453	4,881	5,049	5,088
Cash dividends declared per common share	**$ 1.42**	$ 1.36	$ 1.24	$ 1.10	$ 0.94
Net cash provided by operating activities	**$ 15,426**	$ 15,831	$ 13,666	$ 13,876	$ 13,570
	July 25, 2020	July 27, 2019	July 28, 2018	July 29, 2017	July 30, 2016
Cash and cash equivalents and investments	**$ 29,419**	$ 33,413	$ 46,548	$ 70,492	$ 65,756
Total assets	**$ 94,853**	$ 97,793	$ 108,784	$ 129,818	$ 121,652
Debt	**$ 14,583**	$ 24,666	$ 25,569	$ 33,717	$ 28,643
Deferred revenue	**$ 20,446**	$ 18,467	$ 19,685	$ 18,494	$ 16,472

(1) In the second quarter of fiscal 2019, we completed the sale of the Service Provider Video Software Solutions (SPVSS) business. As a result, revenue from the SPVSS business did not recur in future periods. Revenue for the years ended July 27, 2019 and July 28, 2018 include SPVSS revenue of $168 million and $903 million, respectively.

(2) In connection with the Tax Cuts and Jobs Act ("the Tax Act"), we recorded an $872 million charge which was the reversal of the previously recorded benefit associated with the U.S. taxation of deemed foreign dividends recorded in fiscal 2018 as a result of a retroactive final U.S. Treasury regulation issued during the fourth quarter of fiscal 2019.

(3) In fiscal 2018, Cisco recorded a provisional tax expense of $10.4 billion related to the enactment of the Tax Act comprised of $8.1 billion of U.S. transition tax, $1.2 billion of foreign withholding tax, and $1.1 billion re-measurement of net deferred tax assets and liabilities (DTA).

(4) 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 did not recur in future periods. The sale resulted in a pre-tax gain of $253 million net of certain transaction costs. The year ended July 30, 2016 includes SP Video CPE Business revenue of $504 million.

(5) In fiscal 2016 Cisco recognized total tax benefits of $593 million for the following: i) 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 which Cisco recorded a net tax benefit of $367 million; and ii) the Protecting Americans from Tax Hikes Act of 2015 reinstated the U.S. federal R&D tax credit permanently, as a result of which Cisco recognized tax benefits of $226 million.

At the beginning of fiscal 2019, we adopted Accounting Standards Codification (ASC) 606, a new accounting standard related to revenue recognition, using the modified retrospective method to those contracts that were not completed as of July 28, 2018.

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

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," "continues," "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, future responses to and effects of the COVID-19 pandemic, 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 a broad range of technologies that have been powering the Internet since 1984. We are integrating intent-based technologies across networking, security, collaboration, applications and the cloud. These technologies are designed to help our customers manage more users, devices and things connecting to their networks. This will enable us to provide customers with a highly secure, intelligent platform for their digital business.

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

	Three Months Ended			Years Ended		
	July 25, 2020	July 27, 2019	Variance	**July 25, 2020**	July 27, 2019	Variance
Revenue (1)	**$ 12,154**	$ 13,428	(9)%	**$ 49,301**	$ 51,904	(5)%
Gross margin percentage	**63.2%**	63.9%	(0.7) pts	**64.3%**	62.9%	1.4 pts
Research and development	**$ 1,565**	$ 1,753	(11)%	**$ 6,347**	$ 6,577	(3)%
Sales and marketing	**$ 2,218**	$ 2,487	(11)%	**$ 9,169**	$ 9,571	(4)%
General and administrative	**$ 494**	$ 566	(13)%	**$ 1,925**	$ 1,827	5 %
Total R&D, sales and marketing, general and administrative	**$ 4,277**	$ 4,806	(11)%	**$ 17,441**	$ 17,975	(3)%
Total as a percentage of revenue	**35.2%**	35.8%	(0.6) pts	**35.4%**	34.6%	0.8 pts
Amortization of purchased intangible assets included in operating expenses	**$ 33**	$ 38	(13)%	**$ 141**	$ 150	(6)%
Restructuring and other charges included in operating expenses	**$ 127**	$ 40	218 %	**$ 481**	$ 322	49 %
Operating income as a percentage of revenue	**26.7%**	27.5%	(0.8) pts	**27.6%**	27.4%	0.2 pts
Interest and other income (loss), net	**$ 59**	$ 14	321 %	**$ 350**	$ 352	(1)%
Income tax percentage (2)	**20.3%**	40.4%	(20.1) pts	**19.7%**	20.2%	(0.5) pts
Net income (2)	**$ 2,636**	$ 2,206	19 %	**$ 11,214**	$ 11,621	(4)%
Net income as a percentage of revenue	**21.7%**	16.4%	5.3 pts	**22.7%**	22.4%	0.3 pts
Earnings per share—diluted (2)	**$ 0.62**	$ 0.51	22 %	**$ 2.64**	$ 2.61	1 %

(1) During the second quarter of fiscal 2019, we completed the sale of our SPVSS business. As a result, revenue from this business will not recur in future periods. Includes SPVSS business revenue of $168 million for fiscal 2019.

(2) Includes a $0.9 billion charge for the fourth quarter of fiscal 2019 and fiscal 2019 related to the Tax Act.

Fiscal 2020 Compared with Fiscal 2019

In fiscal 2020, we delivered growth in margins and earnings per share in a very challenging environment with the COVID-19 pandemic. Total revenue decreased by 5% compared with fiscal 2019. Our product revenue declined in Infrastructure Platforms and Applications, partially offset by growth in Security, and we continued to make progress in the transition of our business model to increased software and subscriptions. We remain focused on accelerating innovation across our portfolio, and we believe that we have made continued progress on our strategic priorities. We continue to operate in a challenging macroeconomic and highly competitive environment. We saw broad-based weakening in the global macroeconomic environment during the fiscal year which impacted our commercial and enterprise markets. We also experienced continuing weakness in the service provider market and emerging countries, and we expect ongoing uncertainty in these markets. While the overall environment remains uncertain, we continue to aggressively invest in priority areas with the objective of driving profitable growth over the long term.

Within total revenue, product revenue decreased 8% and service revenue increased by 3%. Total gross margin increased by 1.4 percentage points, driven primarily by productivity benefits and product mix partially offset by unfavorable impacts from pricing. As a percentage of revenue, research and development, sales and marketing, and general and administrative expenses, collectively, increased by 0.8 percentage points. Operating income as a percentage of revenue increased by 0.2 percentage points. Diluted earnings per share increased by 1%, driven by a decrease in diluted share count of 199 million shares, partially offset by a decrease in net income of 4%.

In terms of our geographic segments, revenue from the Americas decreased by $1.6 billion, driven in large part by a product revenue decline in the United States. EMEA revenue decreased by $0.4 billion and revenue in our APJC segment decreased by $0.5 billion. The “BRICM” countries experienced a product revenue decline of 25% in the aggregate, driven by decreased product revenue in the emerging countries of India, China, Mexico and Brazil.

From a customer market standpoint, we experienced product revenue declines across all customer segments, with the most significant declines in the commercial and service provider markets. During fiscal 2020, we saw a decline in business momentum in the commercial and enterprise markets, which we believe was significantly related to weakness in the global macroeconomic environment.

From a product category perspective, total product revenue decreased 8% year over year. The decrease was driven by declines in revenue in Infrastructure Platforms and Applications of 10% and 4%, respectively. These declines were partially offset by a product revenue increase in Security of 12%.

Fourth Quarter Snapshot

For the fourth quarter of fiscal 2020, as compared with the fourth quarter of fiscal 2019, total revenue decreased by 9%. Within total revenue, product revenue decreased by 13% and service revenue was flat. With regard to our geographic segment performance, on a year-over-year basis, revenue in the Americas, EMEA and APJC decreased by 12%, 6% and 7% respectively. From a product category perspective, we experienced product revenue declines in Infrastructure Platforms and Applications, offset by growth in Security. Total gross margin decreased by 0.7 percentage points, driven by unfavorable pricing partially offset by favorable product mix. As a percentage of revenue, research and development, sales and marketing, and general and administrative expenses collectively decreased by 0.6 percentage points. Operating income as a percentage of revenue decreased by 0.8 percentage points. Diluted earnings per share increased by 22% and net income increased by 19%. The fourth quarter of fiscal 2019 included a $0.9 billion tax charge related to the Tax Act.

COVID-19 Pandemic Response Summary

During this extraordinary time, our priority has been supporting our employees, customers, partners and communities, while positioning Cisco for the future. The pandemic has driven organizations across the globe to digitize their operations and support remote workforces at a faster speed and greater scale than ever before. We remain focused on providing the technology and solutions our customers need to accelerate their digital organizations. The actions we are taking include:

Employees

- Most of our global workforce working from home.
- Seamless transition to work from home with a long-standing flexible work policy, and we build the technologies that allow organizations to stay connected, secure and productive.
- For the remainder who must be in the office to perform their roles, we are focused on their health and safety, and are taking all of the necessary precautions.

Customer and Partners

- Introduced a variety of free offers and trials for our Webex and security technologies as they dramatically shifted entire workforces to be remote.
- Announced a Cisco Capital Business Resiliency Program leveraging currently available funds to provide organizations with access to financing solutions to offer financial flexibility and support business continuity. This will help customers and partners access the technology they need now, invest for recovery, and defer most of the payments until early 2021.

Communities

- Committed significant funds to support both global and local pandemic response efforts.
- Providing technology and financial support for non-profits, first responders, and governments.
- Donating personal protective equipment to hospital workers including N95 masks and face shields 3D-printed by Cisco volunteers around the world.

Strategy and Priorities

As our customers add billions of new connections to their enterprises, and as more applications move to a multicloud environment, the network becomes even more critical. Our customers are navigating change at an unprecedented pace and our mission is to inspire new possibilities for them by helping transform their infrastructure, expand applications and analytics, address their security needs, and empower their teams. We believe that our customers are looking for intent-based networks that provide meaningful business value through automation, security, and analytics across private, hybrid, and multicloud environments. Our vision is to deliver highly secure, software-defined, automated and intelligent platforms for our customers.

For a full discussion of our strategy and priorities, see "Item 1. Business."

Other Key Financial Measures

The following is a summary of our other key financial measures for fiscal 2020 compared with fiscal 2019 (in millions):

	Fiscal 2020	Fiscal 2019
Cash and cash equivalents and investments	**$29,419**	$33,413
Cash provided by operating activities	**$15,426**	$15,831
Deferred revenue	**$20,446**	$18,467
Repurchases of common stock—stock repurchase program	**$2,619**	$20,577
Dividends	**$6,016**	$5,979
Inventories	**$1,282**	$1,383

CRITICAL ACCOUNTING ESTIMATES

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.

The inputs into certain of our judgments, assumptions and estimates considered the economic implications of the COVID-19 pandemic on our critical and significant accounting estimates. The COVID-19 pandemic did not have a material impact on our significant judgments, assumptions and estimates that are reflected in our results for fiscal 2020. These estimates include: goodwill and identified purchased intangible assets and income taxes, among other items. The actual results that we experience may differ materially from our estimates. As the COVID-19 pandemic continues to develop, many of our estimates could require increased judgment and carry a higher degree of variability and volatility. As events continue to evolve our estimates may change materially in future periods.

Revenue Recognition

We enter into contracts with customers that can include various combinations of products and services which are generally distinct and accounted for as separate performance obligations. As a result, our contracts may contain multiple performance obligations. We determine whether arrangements are distinct based on whether the customer can benefit from the product or service on its own or together with other resources that are readily available and whether our commitment to transfer the product or service to the customer is separately identifiable from other obligations in the contract. We classify our hardware, perpetual software licenses, and SaaS as distinct performance obligations. Term software licenses represent multiple obligations, which include software licenses and software maintenance. In transactions where we deliver hardware or software, we are typically the principal and we record revenue and costs of goods sold on a gross basis.

We recognize revenue upon transfer of control of promised goods or services in a contract with a customer in an amount that reflects the consideration we expect to receive in exchange for those products or services. Transfer of control occurs once the customer has the contractual right to use the product, generally upon shipment or once title and risk of loss has transferred to the customer. Transfer of control can also occur over time for software maintenance and services as the customer receives the benefit over the contract term. Our hardware and perpetual software licenses are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses include multiple performance obligations where the term licenses are recognized upfront upon transfer of control, with the associated software maintenance revenue recognized ratably over the contract term as services and software updates are provided. SaaS arrangements do not include the right for the customer to take possession of the software during the term, and therefore have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term as the customer consumes the services. On our product sales, we record consideration from shipping and handling on a gross basis within net product sales. We record our revenue net of any associated sales taxes.

Revenue is allocated among these performance obligations in a manner that reflects the consideration that we expect to be entitled to for the promised goods or services based on standalone selling prices (SSP). SSP is estimated for each distinct performance obligation and judgment may be required in their determination. The best evidence of SSP is the observable price of a product or service when we sell the goods separately in similar circumstances and to similar customers. In instances where SSP is not directly observable, we determine SSP using information that may include market conditions and other observable inputs.

We apply judgment in determining the transaction price as we may be required to estimate variable consideration when determining the amount of revenue to recognize. Variable consideration includes potential contractual penalties and various rebate, cooperative marketing and other incentive programs that we offer to our distributors, channel partners and customers. When determining the amount of revenue to recognize, we estimate the expected usage of these programs, applying the expected value or most likely estimate and update the estimate at each reporting period as actual utilization becomes available. We also consider the customers' right of return in determining the transaction price, where applicable. 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.

See Note 3 to the Consolidated Financial Statements for more details.

Loss Contingencies

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.

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.

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 2020, 2019, and 2018. For the annual impairment testing in fiscal 2020, the excess of the fair value over the carrying value for each of our reporting units was $72.8 billion for the Americas, $51.6 billion for EMEA, and $31.3 billion for APJC.

During the fourth quarter of fiscal 2020, 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 ongoing consideration of all the factors described previously could result in 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, foreign-derived intangible income deductions, global intangible low-taxed income, tax audit settlements, nondeductible compensation, international realignments, and transfer pricing adjustments. Our effective tax rate was 19.7%, 20.2%, and 99.2% in fiscal 2020, 2019, and 2018, respectively.

During fiscal 2018 and fiscal 2019, we recorded a total tax charge of $11.3 billion, consisting of $9 billion of tax expense for the U.S. transition tax on accumulated earnings of foreign subsidiaries, $1.2 billion of foreign withholding tax, and $1.1 billion of tax expense for DTA re-measurement as a result of the Tax Act.

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.

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, foreign-derived intangible income deduction, global intangible low-tax income and base erosion and anti-abuse tax laws, regulations, or interpretations thereof; by expiration of or lapses in tax incentives; by transfer pricing adjustments, including the effect of acquisitions on our 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 changes to the taxation of earnings of our foreign subsidiaries, the deductibility of expenses attributable to foreign income, and 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 37 countries, including the United States, has 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 was 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

A discussion regarding our financial condition and results of operations for fiscal 2020 compared to fiscal 2019 is presented below. A discussion regarding our financial condition and results of operations for fiscal 2019 compared to fiscal 2018 can be found under Item 7 in our Annual Report on Form 10-K for the fiscal year ended July 27, 2019, filed with the SEC on September 5, 2019, which is available free of charge on the SEC's website at www.sec.gov and our Investor Relations website at investor.cisco.com.

Revenue

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

	Years Ended			2020 vs. 2019	
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent [1]
Revenue:					
Product	**$ 35,978**	$ 39,005	$ 36,709	$ (3,027)	(8)%
Percentage of revenue	***73.0%***	*75.1%*	*74.4%*		
Service	**13,323**	12,899	12,621	424	3 %
Percentage of revenue	***27.0%***	*24.9%*	*25.6%*		
Total	**$ 49,301**	$ 51,904	$ 49,330	$ (2,603)	(5)%

(1) Total revenue and product revenue not including the SPVSS business in the prior year decreased 5% and 7%, respectively. Service revenue not including the SPVSS business in the prior year increased 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			2020 vs. 2019	
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent
Revenue:					
Americas	**$ 29,291**	$ 30,927	$ 29,070	$ (1,636)	(5)%
Percentage of revenue	***59.4%***	*59.6%*	*58.9%*		
EMEA	**12,659**	13,100	12,425	(441)	(3)%
Percentage of revenue	***25.7%***	*25.2%*	*25.2%*		
APJC	**7,352**	7,877	7,834	(525)	(7)%
Percentage of revenue	***14.9%***	*15.2%*	*15.9%*		
Total	**$ 49,301**	$ 51,904	$ 49,330	$ (2,603)	(5)%

Amounts may not sum and percentages may not recalculate due to rounding.

Total revenue in fiscal 2020 decreased by 5% compared with fiscal 2019. Product revenue decreased by 8% and service revenue increased by 3%. Our total revenue reflected declines across each of our geographic segments. Product revenue for the emerging countries of BRICM, in the aggregate, experienced a 25% product revenue decline, with decreases in India, China, Mexico and Brazil.

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 performance obligations; 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.

Product Revenue by Segment

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

	Years Ended			2020 vs. 2019	
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent
Product revenue:					
Americas	**$ 21,006**	$ 22,754	$ 21,088	$ (1,748)	(8)%
Percentage of product revenue	***58.4%***	*58.3%*	*57.5%*		
EMEA	**9,647**	10,246	9,671	(599)	(6)%
Percentage of product revenue	***26.8%***	*26.3%*	*26.3%*		
APJC	**5,326**	6,005	5,950	(679)	(11)%
Percentage of product revenue	***14.8%***	*15.4%*	*16.2%*		
Total	**$ 35,978**	$ 39,005	$ 36,709	$ (3,027)	(8)%

Amounts may not sum and percentages may not recalculate due to rounding.

Americas

Product revenue in the Americas segment decreased by 8%. The product revenue decrease was across all of our customer segments. From a country perspective, product revenue decreased by 7% in the United States, 13% in Canada, 27% in Mexico and 14% in Brazil.

EMEA

The decrease in product revenue in the EMEA segment of 6% was driven by declines in the service provider, commercial and enterprise markets, partially offset by growth in the public sector market. Product revenue from emerging countries within EMEA decreased by 4%, and product revenue for the remainder of the EMEA segment, which primarily consists of countries in Western Europe, decreased by 6%. From a country perspective, product revenue decreased in the United Kingdom and France by 12% and 7%, respectively, partially offset by a product revenue increase of 2% in Germany.

APJC

Product revenue in the APJC segment decreased by 11%, driven by declines across all of our customer segments. From a country perspective, product revenue decreased in Australia, India and China by 16%, 29% and 34%, respectively, partially offset by a product revenue increase of 8% in Japan.

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. We report our product revenue in the following categories: Infrastructure Platforms, Applications, Security, and Other Products. This aligns our product categories with our evolving business model. Prior period amounts have been reclassified to conform to the current period's presentation.

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

	Years Ended			2020 vs. 2019	
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent
Product revenue:					
Infrastructure Platforms	**$ 27,122**	$ 30,099	$ 28,286	$ (2,977)	(10)%
Applications	**5,568**	5,803	5,036	(235)	(4)%
Security	**3,154**	2,821	2,388	333	12 %
Other Products	**135**	281	999	(146)	(52)%
Total	**$ 35,978**	$ 39,005	$ 36,709	$ (3,027)	(8)%

Amounts may not sum and percentages may not recalculate due to rounding.

Infrastructure Platforms

The Infrastructure Platforms product category represents our core networking offerings related to switching, routing, wireless, and the data center. Infrastructure Platforms revenue decreased by 10%, or $3.0 billion. This was the product area most impacted by the COVID-19 pandemic environment in the second half of fiscal 2020. Switching revenue declined in both campus switching and data center switching, although we had revenue growth in our intent-based networking Catalyst 9000 Series. We experienced a decrease in sales of routing products, with declines primarily in the service provider and enterprise markets. Revenue from wireless products declined, although we saw revenue growth in our Meraki and WiFi6 products. Revenue from data center declined driven by continued market contraction impacting primarily our servers products.

Applications

The Applications product category includes our collaboration offerings (unified communications, Cisco TelePresence and conferencing) as well as IoT and AppDynamics analytics software offerings. Revenue in our Applications product category decreased by 4%, or $235 million, with a decline in Unified Communications and Cisco TelePresence partially offset by double digit growth in AppDynamics and growth in IoT software offerings and Webex.

Security

Revenue in our Security product category increased 12%, or $333 million, driven by higher sales of identity and access, advanced threat security, unified threat management and web security products. Revenue from our cloud security portfolio reflected strong double-digit growth and continued momentum with our Duo and Umbrella offerings.

Other Products

The decrease in revenue from our Other Products category was primarily driven by a decrease in revenue from the SPVSS business which we divested in the second quarter of fiscal 2019.

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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			2020 vs. 2019	
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent
Service revenue:					
Americas	**$ 8,285**	$ 8,173	$ 7,982	$ 112	1%
Percentage of service revenue	***62.2%***	*63.4%*	*63.3%*		
EMEA	**3,012**	2,854	2,754	158	6%
Percentage of service revenue	***22.6%***	*22.1%*	*21.8%*		
APJC	**2,026**	1,872	1,885	154	8%
Percentage of service revenue	***15.2%***	*14.5%*	*14.9%*		
Total	**$ 13,323**	$ 12,899	$ 12,621	$ 424	3%

Amounts may not sum and percentages may not recalculate due to rounding.

Service revenue increased 3%, driven by an increase in software and solution support offerings. Service revenue increased in all geographic segments.

Gross Margin

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

	AMOUNT			PERCENTAGE		
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018	**July 25, 2020**	July 27, 2019	July 28, 2018
Gross margin:						
Product	**$ 22,779**	$ 24,142	$ 22,282	**63.3%**	61.9%	60.7%
Service	**8,904**	8,524	8,324	**66.8%**	66.1%	66.0%
Total	**$ 31,683**	$ 32,666	$ 30,606	**64.3%**	62.9%	62.0%

Product Gross Margin

The following table summarizes the key factors that contributed to the change in product gross margin percentage from fiscal 2019 to fiscal 2020:

	Product Gross Margin Percentage
Fiscal 2019	**61.9 %**
Productivity [(1)]	**1.9 %**
Product pricing	**(1.3)%**
Mix of products sold	**0.9 %**
Impact from divestiture of SPVSS business	**0.1 %**
Others	**(0.2)%**
Fiscal 2020	**63.3 %**

(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 1.4 percentage points driven by productivity improvements and favorable product mix, partially offset by unfavorable impacts from product pricing. In the second half of fiscal 2020 as a result of the COVID-19 pandemic, we incurred additional logistics costs, such as freight which had a negative impact on product gross margin. Our product gross margin benefited slightly from the sale of our lower margin SPVSS business during the second quarter of fiscal 2019.

Productivity improvements were driven by memory cost savings and other cost reductions including value engineering efforts (e.g. component redesign, board configuration, test processes and transformation processes) and continued operational efficiency in manufacturing operations. The negative pricing impact, which was higher than the year-over-year impact we experienced in fiscal 2019, was driven by typical market factors and impacted each of our geographic segments. The favorable product mix impact was driven by impacts from each of our product categories.

Service Gross Margin

Our service gross margin percentage increased by 0.7 percentage point primarily due to higher sales volume.

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.

Gross Margin by Segment

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

	AMOUNT			PERCENTAGE		
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018	**July 25, 2020**	July 27, 2019	July 28, 2018
Gross margin:						
Americas	**$ 19,547**	$ 20,338	$ 18,792	**66.7%**	65.8%	64.6%
EMEA	**8,304**	8,457	7,945	**65.6%**	64.6%	63.9%
APJC	**4,688**	4,683	4,726	**63.8%**	59.5%	60.3%
Segment total	**32,538**	33,479	31,463	**66.0%**	64.5%	63.8%
Unallocated corporate items [(1)]	**(855)**	(813)	(857)			
Total	**$ 31,683**	$ 32,666	$ 30,606	**64.3%**	62.9%	62.0%

[(1)] The unallocated corporate items include the effects of amortization and impairments of acquisition-related intangible assets, share-based compensation expense, significant litigation settlements 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.

Amounts may not sum and percentages may not recalculate due to rounding.

We experienced a gross margin percentage increase in our Americas segment due to productivity improvements and favorable product mix, partially offset by unfavorable impacts from pricing.

Product gross margin in our EMEA segment increased due to productivity improvements and, to a lesser extent, favorable product mix, partially offset by negative impacts from pricing.

The APJC segment gross margin percentage increase was due to productivity improvements and favorable product mix, partially offset by negative impacts from pricing. Higher service gross margin also contributed to the increase in the gross margin in this geographic segment.

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.

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			2020 vs. 2019	
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars	Variance in Percent
Research and development	**$ 6,347**	$ 6,577	$ 6,332	$ (230)	(3)%
Percentage of revenue	***12.9%***	*12.7%*	*12.8%*		
Sales and marketing	**9,169**	9,571	9,242	(402)	(4)%
Percentage of revenue	***18.6%***	*18.4%*	*18.7%*		
General and administrative	**1,925**	1,827	2,144	98	5 %
Percentage of revenue	***3.9%***	*3.5%*	*4.3%*		
Total	**$ 17,441**	$ 17,975	$ 17,718	$ (534)	(3)%
Percentage of revenue	***35.4%***	*34.6%*	*35.9%*		

R&D Expenses

R&D expenses decreased due to lower headcount-related expenses, lower discretionary spending and lower contracted services spending, partially offset by higher share-based compensation expense.

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.

Sales and Marketing Expenses

Sales and marketing expenses decreased primarily due to lower discretionary spending and contracted services spending.

G&A Expenses

G&A expenses increased due to the benefit from the $400 million litigation settlement with Arista Networks, Inc. ("Arista") in fiscal 2019 and higher discretionary spending, partially offset by gains recognized on the sale of property that had been held for sale, lower headcount-related expenses, lower contracted services spending, and lower share-based compensation expense.

Effect of Foreign Currency

In fiscal 2020, foreign currency fluctuations, net of hedging, decreased the combined R&D, sales and marketing, and G&A expenses by approximately $141 million, or 0.8%, compared with fiscal 2019.

Amortization of Purchased Intangible Assets

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

Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Amortization of purchased intangible assets:			
Cost of sales	**$ 659**	$ 624	$ 640
Operating expenses	**141**	150	221
Total	**$ 800**	$ 774	$ 861

The increase in amortization of purchased intangible assets was due largely to the amortization of purchased intangibles from our recent acquisitions.

Restructuring and Other Charges

In the first quarter of fiscal 2021, we initiated a restructuring plan, which includes a voluntary early retirement program, in order to realign the organization and enable further investment in key priority areas. The total pretax charges are estimated to be approximately $900 million. We expect the plan to be substantially completed in fiscal 2021 and estimate it will generate cost savings of approximately $1.0 billion on an annualized basis over the next few quarters.

The following table presents restructuring and other charges (in millions):

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Restructuring and other charges included in operating expenses	**$ 481**	$ 322	$ 358

We initiated a restructuring plan during fiscal 2020 in order to realign the organization and enable further investment in key priority areas, with estimated pretax charges of approximately $300 million. In connection with this restructuring plan, we incurred charges of $255 million during fiscal 2020. We expect this restructuring plan to be substantially completed in fiscal 2021.

We incurred total restructuring and other charges of $481 million in fiscal 2020. We incurred charges of $255 million related to the restructuring plan initiated during fiscal 2020 and the remainder of which was related to the restructuring plan announced during fiscal 2018.

These charges were primarily cash-based and consisted of employee severance and other one-time termination benefits, and other costs. We expect to reinvest substantially all of the cost savings from these restructuring actions in our key priority areas. As a result, the overall cost savings from these restructuring actions are not expected to be material for future periods.

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 25, 2020	July 27, 2019	July 28, 2018
Operating income	**$ 13,620**	$ 14,219	$ 12,309
Operating income as a percentage of revenue	**27.6%**	27.4%	25.0%

Operating income decreased by 4%, and as a percentage of revenue operating income increased by 0.2 percentage points. These changes resulted primarily from: a revenue decrease, the impact of the benefit from the $400 million litigation settlement with Arista in the first quarter of fiscal 2019 and higher restructuring and other charges, partially offset by a gross margin percentage increase (driven by productivity improvements and product mix, partially offset by unfavorable impacts from pricing).

Interest and Other Income (Loss), Net

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

	Years Ended			2020 vs. 2019
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars
Interest income	**$ 920**	$ 1,308	$ 1,508	$ (388)
Interest expense	**(585)**	(859)	(943)	274
Interest income (expense), net	**$ 335**	$ 449	$ 565	$ (114)

Interest income decreased driven by a lower average balance of cash and available-for-sale debt investments and lower interest rates. The decrease in interest expense was driven by a lower average debt balance and the impact of lower effective interest rates.

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

	Years Ended			2020 vs. 2019
	July 25, 2020	July 27, 2019	July 28, 2018	Variance in Dollars
Gains (losses) on investments, net:				
Available-for-sale debt investments	**$ 42**	$ (13)	$ (242)	$ 55
Marketable equity investments	**(5)**	(3)	529	(2)
Non-marketable equity and other investments	**95**	6	11	89
Net gains (losses) on investments	**132**	(10)	298	142
Other gains (losses), net	**(117)**	(87)	(133)	(30)
Other income (loss), net	**$ 15**	$ (97)	$ 165	$ 112

The total change in net gains (losses) on available-for-sale debt investments was primarily attributable to higher realized gains as a result of market conditions, and the timing of sales of these investments. The change in net gains (losses) on non-marketable equity and other investments was primarily due to higher realized gains and higher unrealized gains, partially offset by higher impairment charges. The change in other gains (losses), net was primarily driven by higher donation expense as related to COVID-19 programs, partially offset by net favorable foreign exchange impacts.

Provision for Income Taxes

The provision for income taxes resulted in an effective tax rate of 19.7% for fiscal 2020, compared with 20.2% for fiscal 2019. The net 0.5 percentage point decrease in the effective tax rate was primarily due to a decrease in net discrete tax charges.

For a full reconciliation of our effective tax rate to the U.S. federal statutory rate of 21% and for further explanation of our provision for income taxes, see Note 18 to the Consolidated Financial Statements.

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 25, 2020	July 27, 2019	Increase (Decrease)
Cash and cash equivalents	**$ 11,809**	$ 11,750	$ 59
Available-for-sale debt investments	**17,610**	21,660	(4,050)
Marketable equity securities	**—**	3	(3)
Total	**$ 29,419**	$ 33,413	$ (3,994)

The net decrease in cash and cash equivalents and investments from fiscal 2019 to fiscal 2020 was primarily driven by a net decrease in debt of $10.2 billion, cash returned to shareholders in the form of repurchases of common stock of $2.7 billion under the stock repurchase program and cash dividends of $6.0 billion, capital expenditures of $0.8 billion and net cash paid for acquisitions and divestitures of $0.3 billion. These uses of cash were partially offset by cash provided by operating activities of $15.4 billion.

In addition to cash requirements in the normal course of business, on July 9, 2019 we announced our intent to acquire Acacia Communications, Inc. for a net purchase consideration of approximately $2.6 billion in cash. Additionally, approximately $0.7 billion of the U.S. transition tax on accumulated earnings for foreign subsidiaries and $3.0 billion of long-term debt outstanding at July 25, 2020 will mature within the next 12 months from the balance sheet date. See further discussion of liquidity and future payments under "Contractual Obligations" and "Liquidity and Capital Resource Requirements" below.

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 available-for-sale debt investment portfolio consisting primarily of high quality investment-grade securities. We believe that our strong cash and cash equivalents and investments position is critical at this time of uncertainty due to the COVID-19 pandemic and 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.

Securities Lending We periodically engage in securities lending activities with certain of our available-for-sale debt investments. These transactions are accounted for as a secured lending of the securities, and the securities are typically loaned only on an overnight basis. 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. We did not experience any losses in connection with the secured lending of securities during the periods presented.

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 25, 2020	July 27, 2019	July 28, 2018
Net cash provided by operating activities	**$ 15,426**	$ 15,831	$ 13,666
Acquisition of property and equipment	**(770)**	(909)	(834)
Free cash flow	**$ 14,656**	$ 14,922	$ 12,832

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 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 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 cash 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):

	DIVIDENDS		STOCK REPURCHASE PROGRAM			TOTAL
Years Ended	Per Share	Amount	Shares	Weighted-Average Price per Share	Amount	Amount
July 25, 2020	**$ 1.42**	**$ 6,016**	**59**	**$ 44.36**	**$ 2,619**	**$ 8,635**
July 27, 2019	$ 1.36	$ 5,979	418	$ 49.22	$ 20,577	$ 26,556
July 28, 2018	$ 1.24	$ 5,968	432	$ 40.88	$ 17,661	$ 23,629

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

The remaining authorized amount for stock repurchases under this program is approximately $10.8 billion, with no termination date.

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

	July 25, 2020	July 27, 2019	Increase (Decrease)
Accounts receivable, net	**$ 5,472**	$ 5,491	$ (19)

Our accounts receivable net, as of July 25, 2020 was flat compared with the end of fiscal 2019.

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

	July 25, 2020	July 27, 2019	Increase (Decrease)
Inventories	**$ 1,282**	$ 1,383	$ (101)
Purchase commitments with contract manufacturers and suppliers	**$ 4,406**	$ 4,967	$ (561)

Inventory as of July 25, 2020 decreased by 7% from our inventory balance at the end of fiscal 2019, and for the same period purchase commitments with contract manufacturers and suppliers decreased by approximately 11%. On a combined basis, inventories and purchase commitments with contract manufacturers and suppliers decreased by 10% compared with the end of fiscal 2019. The decrease in inventory was primarily due to a decrease in finished goods and lower deferred cost of sales, partially offset by an increase in raw materials.

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.

Our purchase commitments are for short-term product manufacturing requirements as well as for commitments to suppliers to secure manufacturing capacity. Certain of our purchase commitments with contract manufacturers and suppliers relate to arrangements to secure long-term pricing for certain product components for multi-year periods. 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. We believe our inventory and purchase commitments levels are in line with our current demand forecasts.

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.

Financing Receivables and Guarantees The following table summarizes our financing receivables (in millions):

	July 25, 2020	July 27, 2019	Increase (Decrease)
Lease receivables, net	**$ 2,088**	$ 2,326	$ (238)
Loan receivables, net	**5,856**	5,367	489
Financed service contracts, net	**2,821**	2,360	461
Total, net	**$ 10,765**	$ 10,053	$ 712

Financing Receivables Our financing arrangements include leases, loans, and financed service contracts. Lease receivables include sales-type leases. Arrangements related to leases are generally collateralized by a security interest in the underlying assets. Our loan receivables include customer financing for purchases of our hardware, software and services and also may include additional funds for other costs associated with network installation and integration of our products and services. We also provide financing to certain qualified customers for long-term service contracts, which primarily relate to technical support services. The majority of the revenue from these financed service contracts is deferred and is recognized ratably over the period during which the services are performed. Financing receivables increased by 7%.

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, with payment terms generally ranging from 60 to 90 days. During fiscal 2020, we expanded the payment terms on certain of our channel partner financing programs by 30 days in response to the COVID-19 pandemic environment. 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, $29.6 billion, and $28.2 billion in fiscal 2020, 2019, and 2018, 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 $1.4 billion as of July 25, 2020 and July 27, 2019, 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. As of July 25, 2020, the total maximum potential future payments related to these guarantees was approximately $207 million, of which approximately $28 million was recorded as deferred revenue.

COVID-19 Business Resiliency Program At the end of the third quarter of fiscal 2020, we initiated a new Business Resiliency Program designed to help customers and channel partners mitigate financial challenges resulting from the COVID-19 pandemic. This program includes $2.5 billion in currently available funds to provide organizations with access to financing solutions. The new Business Resiliency Program offered by us includes an up-front 90-day payment holiday and allows a customer to defer 95 percent of the payments for a new product or solution until calendar 2021, which in turn protects their business and increases their existing cash flow.

Borrowings

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

	Maturity Date	**July 25, 2020**	July 27, 2019
Senior notes:			
Floating-rate notes:			
Three-month LIBOR plus 0.34%	September 20, 2019	**$ —**	$ 500
Fixed-rate notes:			
1.40%	September 20, 2019	**—**	1,500
4.45%	January 15, 2020	**—**	2,500
2.45%	June 15, 2020	**—**	1,500
2.20%	February 28, 2021	**2,500**	2,500
2.90%	March 4, 2021	**500**	500
1.85%	September 20, 2021	**2,000**	2,000
3.00%	June 15, 2022	**500**	500
2.60%	February 28, 2023	**500**	500
2.20%	September 20, 2023	**750**	750
3.625%	March 4, 2024	**1,000**	1,000
3.50%	June 15, 2025	**500**	500
2.95%	February 28, 2026	**750**	750
2.50%	September 20, 2026	**1,500**	1,500
5.90%	February 15, 2039	**2,000**	2,000
5.50%	January 15, 2040	**2,000**	2,000
Total		**$ 14,500**	$ 20,500

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. We were in compliance with all debt covenants as of July 25, 2020.

Commercial Paper We have a short-term debt financing program in which up to $10.0 billion is available 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 July 25, 2020. We had $4.2 billion in commercial paper notes outstanding as of July 27, 2019.

Credit Facility On May 15, 2020, we entered into a 364-day credit agreement with certain institutional lenders that provides for a $2.75 billion unsecured revolving credit facility that is scheduled to expire on May 14, 2021. The credit agreement is structured as an amendment and restatement of our five-year credit facility which would have terminated on May 15, 2020, the end of its five-year term. As of July 25, 2020, 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. 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 Services, LLC and Moody's Investors Service, Inc., provided that in no event will the Eurocurrency Rate be less than 0.25%. 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. This credit agreement requires that we comply with certain covenants, including that we maintain an interest coverage ratio as defined in the agreement.

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

	July 25, 2020	July 27, 2019	Increase (Decrease)
Service	**$ 12,551**	$ 11,709	$ 842
Product	**7,895**	6,758	1,137
Total	**$ 20,446**	$ 18,467	$ 1,979
Reported as:			
Current	**$ 11,406**	$ 10,668	$ 738
Noncurrent	**9,040**	7,799	1,241
Total	**$ 20,446**	$ 18,467	$ 1,979

Total deferred revenue increased 11% in fiscal 2020. The increase in deferred product revenue of 17% was primarily due to increased deferrals related to our recurring software offerings. The increase in deferred service revenue was driven by the impact of contract renewals, partially offset by amortization of deferred service revenue.

Remaining Performance Obligations The following table presents the breakdown of remaining performance obligations (in millions):

	July 25, 2020	July 27, 2019	Increase (Decrease)
Product	**$ 11,261**	$ 9,603	$ 1,658
Service	**17,093**	15,702	1,391
Total	**$ 28,354**	$ 25,305	$ 3,049

Total remaining performance obligations increased 12% in fiscal 2020. Remaining performance obligations for product and service increased 17% and 9%, respectively, compared to fiscal 2019.

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 25, 2020 (in millions):

	PAYMENTS DUE BY PERIOD				
July 25, 2020	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
Operating leases	$ 1,033	$ 354	$ 439	$ 188	$ 52
Purchase commitments with contract manufacturers and suppliers	4,406	3,994	412	—	—
Other purchase obligations	1,226	522	423	209	72
Senior notes	14,500	3,000	3,000	2,250	6,250
Transition tax payable	7,638	727	1,455	3,183	2,273
Other long-term liabilities	1,405	—	358	93	954
Total by period	$ 30,208	$ 8,597	$ 6,087	$ 5,923	$ 9,601
Other long-term liabilities (uncertainty in the timing of future payments)	2,007				
Total	$ 32,215				

Operating Leases For more information on our operating leases, see Note 8 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. Our purchase commitments are for short-term product manufacturing requirements as well as for commitments to suppliers to secure manufacturing capacity. Certain of our purchase commitments with contract manufacturers and suppliers relate to arrangements to secure long-term pricing for certain product components for multi-year periods. 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."

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 12 to the Consolidated Financial Statements.

Transition Tax Payable Transition tax payable represents future cash tax payments associated with the one-time U.S. transition tax on accumulated earnings of foreign subsidiaries as a result of the Tax Act. See Note 18 to the Consolidated Financial Statements.

Other Long-Term Liabilities Other long-term liabilities primarily include noncurrent income taxes payable, accrued liabilities for deferred compensation, 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 $1.9 billion and deferred tax liabilities of $81 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 18 to the Consolidated Financial Statements.

Other Commitments

In connection with our acquisitions, 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 14 to the Consolidated Financial Statements.

We also have certain funding commitments primarily related to our non-marketable equity and other investments, some of which may be based on the achievement of certain agreed-upon milestones, and some of which are required to be funded on demand. The funding commitments were $0.3 billion as of each of July 25, 2020 and July 27, 2019.

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 non-marketable equity and other investments and provide financing to certain customers. Certain of these investments are considered to be variable interest entities. We evaluate on an ongoing basis our non-marketable equity and other investments and customer financings, and we have determined that as of July 25, 2020 there were no material unconsolidated variable interest entities.

On an ongoing basis, we reassess our non-marketable equity and other investments 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."

Liquidity and Capital Resource Requirements

While the COVID-19 pandemic has not materially impacted our liquidity and capital resources to date, it has led to increased disruption and volatility in capital markets and credit markets. The pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future. 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, pending acquisitions, 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. We have seen an increase in these risks and related uncertainties with increased volatility in the financial markets in the current environment with the COVID-19 pandemic.

Interest Rate Risk

Available-for-Sale Debt Investments We maintain an investment portfolio of various holdings, types, and maturities. Our primary objective for holding available-for-sale debt investments 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 available-for-sale debt investment portfolio. Conversely, declines in interest rates as has also happened recently, 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 available-for-sale debt investments as of July 25, 2020. Our available-for-sale debt investments are held for purposes other than trading. Our available-for-sale debt investments are not leveraged as of July 25, 2020. 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 available-for-sale debt investments, 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. The hypothetical fair values as of July 25, 2020 and July 27, 2019 are as follows (in millions):

	VALUATION OF SECURITIES GIVEN AN INTEREST RATE DECREASE OF X BASIS POINTS			**FAIR VALUE AS OF JULY 25, 2020**	VALUATION OF SECURITIES GIVEN AN INTEREST RATE INCREASE OF X BASIS POINTS		
	(150 BPS)	(100 BPS)	(50 BPS)		50 BPS	100 BPS	150 BPS
Available-for-sale debt investments	$17,877	$17,788	$17,699	**$17,610**	$17,522	$17,433	$17,344

	VALUATION OF SECURITIES GIVEN AN INTEREST RATE DECREASE OF X BASIS POINTS			FAIR VALUE AS OF JULY 27, 2019	VALUATION OF SECURITIES GIVEN AN INTEREST RATE INCREASE OF X BASIS POINTS		
	(150 BPS)	(100 BPS)	(50 BPS)		50 BPS	100 BPS	150 BPS
Available-for-sale debt investments	$22,017	$21,898	$21,779	$21,660	$21,541	$21,421	$21,302

Financing Receivables As of July 25, 2020, our financing receivables had a carrying value of $10.8 billion, compared with $10.1 billion as of July 27, 2019. As of July 25, 2020, 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 25, 2020, we had $14.5 billion in principal amount of senior fixed-rate notes outstanding. The carrying amount of the senior notes was $14.6 billion, and the related fair value based on market prices was $17.4 billion. As of July 25, 2020, a hypothetical 50 BPS increase or decrease in market interest rates would change the fair value of the fixed-rate debt, excluding the $2.5 billion of hedged debt, by a decrease or increase of approximately $0.5 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

Marketable Equity Investments The fair value of our marketable equity investments is subject to market price volatility. We may hold equity securities for strategic purposes or to diversify our overall investment portfolio. These equity securities are held for purposes other than trading. We had no outstanding marketable equity securities as of July 25, 2020.

Non-marketable Equity and Other Investments These investments are recorded in other assets in our Consolidated Balance Sheets. As of July 25, 2020, the total carrying amount of our non-marketable equity and other investments was $1.3 billion, compared with $1.2 billion at July 27, 2019. Some of these 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 non-marketable equity and other investments is based on the fundamentals of the businesses invested in, including, among other factors, the nature of their technologies and potential for financial return.

Foreign Currency Exchange Risk

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

	July 25, 2020		July 27, 2019	
	Notional Amount	**Fair Value**	Notional Amount	Fair Value
Forward contracts:				
Purchased	**$ 2,441**	**$ 1**	$ 2,239	$ 14
Sold	**$ 1,874**	**$ 4**	$ 1,441	$ (14)

At July 25, 2020 and July 27, 2019, we had no option contracts outstanding.

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, 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 2020, foreign currency fluctuations, net of hedging, decreased our combined R&D, sales and marketing, and G&A expenses by approximately $141 million, or 0.8%, as compared with fiscal 2019. To reduce variability in operating expenses and service cost of sales caused by non-U.S.-dollar denominated operating expenses and costs, we may 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.

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.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Cisco Systems, Inc. and its subsidiaries (the "Company") as of July 25, 2020 and July 27, 2019, and the related consolidated statements of operations, comprehensive income (loss), equity and cash flows for each of the three years in the period ended July 25, 2020, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended July 25, 2020 appearing under Item 15 (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of July 25, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of July 25, 2020 and July 27, 2019, and the results of its operations and its cash flows for each of the three years in the period ended July 25, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of July 25, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2020 and the manner in which it accounts for revenue from contracts with customers in 2019.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. 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.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (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.

Critical Audit Matters

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

Revenue recognition — identification of contractual terms in certain customer arrangements

As described in Note 2 to the consolidated financial statements, management assesses relevant contractual terms in its customer arrangements to determine the transaction price and recognizes revenue upon transfer of control of the promised goods or services in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. Management applies judgment in determining the transaction price which is dependent on the contractual terms. In order to determine the transaction price, management may be required to estimate variable consideration when determining the amount and timing of revenue recognition.

The principal considerations for our determination that performing procedures relating to the identification of contractual terms in customer arrangements to determine the transaction price is a critical audit matter are there was significant judgment by management in identifying contractual terms due to the volume and customized nature of the Company's customer arrangements. This in turn led to significant effort in performing our audit procedures which were designed to evaluate whether the contractual terms used in the determination of the transaction price and the timing of revenue recognition were appropriately identified and determined by management and to evaluate the reasonableness of management's estimates.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including those related to the identification of contractual terms in customer arrangements that impact the determination of the transaction price and revenue recognition. These procedures also included, among others, (i) testing the completeness and accuracy of management's identification of the contractual terms by examining customer arrangements on a test basis, and (ii) testing management's process for determining the appropriate amount and timing of revenue recognition based on the contractual terms identified in the customer arrangements.

/s/ PricewaterhouseCoopers LLP
San Jose, California
September 3, 2020

We have served as the Company's auditor since 1988.

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 25, 2020. 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 pages.

/S/ CHARLES H. ROBBINS	/S/ KELLY A. KRAMER
Charles H. Robbins	Kelly A. Kramer
Chairman and Chief Executive Officer	Executive Vice President and Chief Financial Officer
September 3, 2020	September 3, 2020

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

	July 25, 2020	July 27, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 11,809	$ 11,750
Investments	17,610	21,663
Accounts receivable, net of allowance for doubtful accounts of $143 at July 25, 2020 and $136 at July 27, 2019	5,472	5,491
Inventories	1,282	1,383
Financing receivables, net	5,051	5,095
Other current assets	2,349	2,373
Total current assets	43,573	47,755
Property and equipment, net	2,453	2,789
Financing receivables, net	5,714	4,958
Goodwill	33,806	33,529
Purchased intangible assets, net	1,576	2,201
Deferred tax assets	3,990	4,065
Other assets	3,741	2,496
TOTAL ASSETS	$ 94,853	$ 97,793
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt	$ 3,005	$ 10,191
Accounts payable	2,218	2,059
Income taxes payable	839	1,149
Accrued compensation	3,122	3,221
Deferred revenue	11,406	10,668
Other current liabilities	4,741	4,424
Total current liabilities	25,331	31,712
Long-term debt	11,578	14,475
Income taxes payable	8,837	8,927
Deferred revenue	9,040	7,799
Other long-term liabilities	2,147	1,309
Total liabilities	56,933	64,222
Commitments and contingencies (Note 14)		
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; 4,237 and 4,250 shares issued and outstanding at July 25, 2020 and July 27, 2019, respectively	41,202	40,266
Accumulated deficit	(2,763)	(5,903)
Accumulated other comprehensive loss	(519)	(792)
Total equity	37,920	33,571
TOTAL LIABILITIES AND EQUITY	$ 94,853	$ 97,793

See Notes to Consolidated Financial Statements.

CISCO SYSTEMS, INC.
Consolidated Statements of Operations
(in millions, except per-share amounts)

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
REVENUE:			
Product	$ 35,978	$ 39,005	$ 36,709
Service	13,323	12,899	12,621
Total revenue	49,301	51,904	49,330
COST OF SALES:			
Product	13,199	14,863	14,427
Service	4,419	4,375	4,297
Total cost of sales	17,618	19,238	18,724
GROSS MARGIN	31,683	32,666	30,606
OPERATING EXPENSES:			
Research and development	6,347	6,577	6,332
Sales and marketing	9,169	9,571	9,242
General and administrative	1,925	1,827	2,144
Amortization of purchased intangible assets	141	150	221
Restructuring and other charges	481	322	358
Total operating expenses	18,063	18,447	18,297
OPERATING INCOME	13,620	14,219	12,309
Interest income	920	1,308	1,508
Interest expense	(585)	(859)	(943)
Other income (loss), net	15	(97)	165
Interest and other income (loss), net	350	352	730
INCOME BEFORE PROVISION FOR INCOME TAXES	13,970	14,571	13,039
Provision for income taxes	2,756	2,950	12,929
NET INCOME	$ 11,214	$ 11,621	$ 110
Net income per share:			
Basic	$ 2.65	$ 2.63	$ 0.02
Diluted	$ 2.64	$ 2.61	$ 0.02
Shares used in per-share calculation:			
Basic	4,236	4,419	4,837
Diluted	4,254	4,453	4,881

See Notes to Consolidated Financial Statements.

CISCO SYSTEMS, INC.
Consolidated Statements of Comprehensive Income (Loss)
(in millions)

Years Ended		July 25, 2020		July 27, 2019		July 28, 2018
Net income	$	11,214	$	11,621	$	110
Available-for-sale investments:						
Change in net unrealized gains and losses, net of tax benefit (expense) of $(84), $(101), and $(11) for fiscal 2020, 2019, and 2018, respectively		336		459		(554)
Net (gains) losses reclassified into earnings, net of tax expense (benefit) of $21, $6, and $104 for fiscal 2020, 2019, and 2018, respectively		(21)		19		(183)
		315		478		(737)
Cash flow hedging instruments:						
Change in unrealized gains and losses, net of tax benefit (expense) of $0, $0, and $(3) for fiscal 2020, 2019, and 2018, respectively		7		—		18
Net (gains) losses reclassified into earnings, net of tax (benefit) expense of $0, $0, and $7 for fiscal 2020, 2019, and 2018, respectively		1		(3)		(61)
		8		(3)		(43)
Net change in cumulative translation adjustment and actuarial gains and losses, net of tax benefit (expense) of $(5), $15, and $(8) for fiscal 2020, 2019, and 2018, respectively		(50)		(250)		(160)
Other comprehensive income (loss)		273		225		(940)
Comprehensive income (loss)	$	11,487	$	11,846	$	(830)

See Notes to Consolidated Financial Statements.

CISCO SYSTEMS, INC.
Consolidated Statements of Cash Flows
(in millions)

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Cash flows from operating activities:			
Net income	$ 11,214	$ 11,621	$ 110
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization, and other	1,808	1,897	2,192
Share-based compensation expense	1,569	1,570	1,576
Provision (benefit) for receivables	93	40	(134)
Deferred income taxes	(38)	(350)	900
(Gains) losses on divestitures, investments and other, net	(138)	(24)	(322)
Change in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Accounts receivable	(107)	(84)	(269)
Inventories	84	131	(244)
Financing receivables	(797)	(249)	(219)
Other assets	96	(955)	66
Accounts payable	141	87	504
Income taxes, net	(322)	312	8,118
Accrued compensation	(78)	277	100
Deferred revenue	2,011	1,407	1,205
Other liabilities	(110)	151	83
Net cash provided by operating activities	15,426	15,831	13,666
Cash flows from investing activities:			
Purchases of investments	(9,212)	(2,416)	(14,285)
Proceeds from sales of investments	5,631	7,388	17,706
Proceeds from maturities of investments	7,975	12,928	15,769
Acquisitions and divestitures	(327)	(2,175)	(2,979)
Purchases of investments in privately held companies	(190)	(148)	(267)
Return of investments in privately held companies	224	159	168
Acquisition of property and equipment	(770)	(909)	(834)
Proceeds from sales of property and equipment	179	22	59
Other	(10)	(12)	(19)
Net cash provided by investing activities	3,500	14,837	15,318
Cash flows from financing activities:			
Issuances of common stock	655	640	623
Repurchases of common stock - repurchase program	(2,659)	(20,717)	(17,547)
Shares repurchased for tax withholdings on vesting of restricted stock units	(727)	(862)	(703)
Short-term borrowings, original maturities of 90 days or less, net	(3,470)	3,446	(2,502)
Issuances of debt	—	2,250	6,877
Repayments of debt	(6,720)	(6,780)	(12,375)
Dividends paid	(6,016)	(5,979)	(5,968)
Other	51	113	(169)
Net cash used in financing activities	(18,886)	(27,889)	(31,764)
Net increase (decrease) in cash, cash equivalents, and restricted cash	40	2,779	(2,780)
Cash, cash equivalents, and restricted cash, beginning of fiscal year	11,772	8,993	11,773
Cash, cash equivalents, and restricted cash, end of fiscal year	$ 11,812	$ 11,772	$ 8,993
Supplemental cash flow information:			
Cash paid for interest	$ 603	$ 892	$ 911
Cash paid for income taxes, net	$ 3,116	$ 2,986	$ 3,911

See Notes to Consolidated Financial Statements.

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 Deficit)	Accumulated Other Comprehensive Income (Loss)	Total Equity
BALANCE AT JULY 29, 2017	4,983	$ 45,253	$ 20,838	$ 46	$ 66,137
Net income			110		110
Other comprehensive income (loss)				(940)	(940)
Issuance of common stock	83	623			623
Repurchase of common stock	(432)	(3,950)	(13,711)		(17,661)
Shares repurchased for tax withholdings on vesting of restricted stock units	(20)	(703)			(703)
Cash dividends declared ($1.24 per common share)			(5,968)		(5,968)
Effect of adoption of accounting standards			(36)	45	9
Share-based compensation		1,576			1,576
Purchase acquisitions and other		21			21
BALANCE AT JULY 28, 2018	4,614	$ 42,820	$ 1,233	$ (849)	$ 43,204
Net income			11,621		11,621
Other comprehensive income (loss)				225	225
Issuance of common stock	71	640			640
Repurchase of common stock	(418)	(3,902)	(16,675)		(20,577)
Shares repurchased for tax withholdings on vesting of restricted stock units	(17)	(862)			(862)
Cash dividends declared ($1.36 per common share)			(5,979)		(5,979)
Effect of adoption of accounting standards			3,897	(168)	3,729
Share-based compensation		1,570			1,570
BALANCE AT JULY 27, 2019	**4,250**	**$ 40,266**	**$ (5,903)**	**$ (792)**	**$ 33,571**
Net income			**11,214**		**11,214**
Other comprehensive income (loss)				**273**	**273**
Issuance of common stock	**61**	**655**			**655**
Repurchase of common stock	**(59)**	**(561)**	**(2,058)**		**(2,619)**
Shares repurchased for tax withholdings on vesting of restricted stock units	**(15)**	**(727)**			**(727)**
Cash dividends declared ($1.42 per common share)			**(6,016)**		**(6,016)**
Share-based compensation		**1,569**			**1,569**
BALANCE AT JULY 25, 2020	**4,237**	**$ 41,202**	**$ (2,763)**	**$ (519)**	**$ 37,920**

See Notes to Consolidated Financial Statements.

CISCO SYSTEMS, INC.
Notes to Consolidated Financial Statements

1. Basis of Presentation

The fiscal year for Cisco Systems, Inc. (the "Company," "Cisco," "we," "us," or "our") is the 52 or 53 weeks ending on the last Saturday in July. Fiscal 2020, fiscal 2019 and fiscal 2018 were each 52-week fiscal years. The Consolidated Financial Statements include the accounts of ours and those of our subsidiaries. All intercompany accounts and transactions have been eliminated. We conduct business globally and are 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).

Our consolidated financial statements include our accounts and entities consolidated under the variable interest and voting models. The noncontrolling interests attributed to these investments, if any, are presented as a separate component from our equity in the equity section of the Consolidated Balance Sheets. The share of earnings attributable to the noncontrolling interests 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. We have evaluated subsequent events through the date that the financial statements were issued.

2. Summary of Significant Accounting Policies

(a) Cash and Cash Equivalents We consider 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 Debt Investments We classify our investments in fixed income securities as available-for-sale debt investments. Our available-for-sale debt investments primarily consist of U.S. government, U.S. government agency, corporate debt, and U.S. agency mortgage-backed securities. These available-for-sale debt investments are primarily held in the custody of a major financial institution. A specific identification method is used to determine the cost basis of available-for-sale debt investments 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. We classify our investments as current based on the nature of the investments and their availability for use in current operations.

(c) Equity Instruments Our equity investments are accounted for as follows:

- *Marketable equity securities* have readily determinable fair value (RDFV) that are measured and recorded at fair value through income.
- *Non-marketable equity securities* do not have RDFV and are measured using a measurement alternative recorded at cost less any impairment, plus or minus changes resulting from qualifying observable price changes. For certain of these securities, we have elected to apply the net asset value (NAV) practical expedient. The NAV is the estimated fair value of these investments.
- *Equity method investments* are securities we do not control, but are able to exert significant influence over the investee. These investments are measured at cost less any impairment, plus or minus our share of equity method investee income or loss.

(d) Impairments of Investments When the fair value of a debt security is less than its amortized cost, it is deemed impaired, and we will 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 the entire amortized cost basis, or (iii) we do 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).

We hold non-marketable equity and other investments which are included in other assets in the Consolidated Balance Sheets. We monitor these investments for impairments and make 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.

(e) 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. We provide 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, 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 our valuation of excess and obsolete inventory.

(f) Allowance for Doubtful Accounts The allowance for doubtful accounts is based on our assessment of the collectibility of customer accounts. We regularly review 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.

(g) Financing Receivables and Guarantees We provide 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. Loan receivables include customers financing purchases of our hardware, software and services and also may include additional funds for other costs associated with network installation and integration of our products and services. Loan receivables have terms of three years on average. Financed service contracts typically have terms of one to three years and primarily relate to technical support services.

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

We assess the allowance for credit loss related to financing receivables on either an individual or a collective basis. We consider 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 our 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 reserved at the customer level. Our internal credit risk ratings are categorized as 1 through 10, with the lowest credit risk rating representing the highest quality financing receivables. Typically, we also consider financing receivables with a risk rating of 8 or higher to be impaired and will include them in the individual assessment for allowance. We evaluate the remainder of our financing receivables portfolio for impairment on a collective basis and record an allowance for credit loss at the portfolio segment level. When evaluating the financing receivables on a collective basis, we use historical default rates and expected default frequency rates published by major third-party credit-rating agencies 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.

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, our 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. We do 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. We do not accrue interest on financing receivables that are considered impaired or more than 120 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.

We facilitate 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 our receivables to the third party. The receivables are derecognized upon transfer, as these transfers qualify as true sales, and we receive a payment for the receivables from the third party based on our standard payment terms. These financing arrangements facilitate the working capital requirements of the channel partners, and, in some cases, we guarantee a portion of these arrangements. We also provide 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. We 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.

(h) Leases We lease real estate, information technology (IT) and other equipment and vehicles. We also have arrangements with certain suppliers and contract manufacturers which includes the leasing of dedicated space and equipment costs. Our leases have the option to extend or terminate the lease when it is reasonably certain that we will exercise that option.

As a lessee, we determine if an arrangement is a lease at commencement. Our ROU lease assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments related to the lease. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. We use incremental borrowing rates based on information available at the commencement date to determine the present value of our lease payments. Certain of our lease agreements contain variable lease payments. Our variable lease payments can fluctuate depending on the level of activity or the cost of certain services where we have elected to combine lease and non-lease components. While these payments are not included as part of our lease liabilities, they are recognized as variable lease expense in the period they are incurred.

We provide leasing of our equipment and complementary third-party products primarily through our channel partners and distributors, for which the income arising from these leases is recognized through interest income. As a lessor, we determine if an arrangement is a lease at inception. We provide leasing arrangements for our equipment to certain qualified customers. Our lease portfolio primarily consists of sales-type leases. We allocate the consideration in a bundled contract with our customers based on relative standalone selling prices of our lease and non-lease components. The residual value on our leased equipment is determined at the inception of the lease based on an analysis of estimates of the value of equipment, market factors and historical customer behavior. Residual value estimates are reviewed on a periodic basis and other-than-temporary declines are expensed in the period they occur. Our leases generally provide an end-of-term option for the customer to extend the lease under mutually-agreed terms, return the leased equipment, or purchase the equipment for either the then-market value of the equipment or a pre-determined purchase price. If a customer chooses to terminate their lease prior to the original end of term date, the customer is required to pay all remaining lease payments in full.

For additional information, see Note 8.

(i) 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 $0.9 billion, $1.0 billion, and $1.1 billion for fiscal 2020, 2019, and 2018, 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

(j) Business Combinations We allocate the fair value of the purchase consideration of our 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.

(k) 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. Identifying a potential impairment consists of comparing the fair value of a reporting unit with its carrying amount, including goodwill. 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 our 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.

(l) Long-Lived Assets Long-lived assets that are held and used by us 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.

(m) 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, we consider the principal or most advantageous market in which we would transact, and we also consider assumptions that market participants would use when pricing the asset or liability.

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. We use 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 assets or liabilities.

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. The fair values are determined based on model-based techniques such as discounted cash flow models using inputs that we could not corroborate with market data.

(n) Derivative Instruments We recognize derivative instruments as either assets or liabilities and measure 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 our 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. We record 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.

(o) 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.

(p) 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. We seek to mitigate our credit risks by spreading such risks across multiple counterparties and monitoring the risk profiles of these counterparties.

We perform ongoing credit evaluations of our customers and, with the exception of certain financing transactions, do not require collateral from our customers. We receive certain of our components from sole suppliers. Additionally, we rely on a limited number of contract manufacturers and suppliers to provide manufacturing services for our products. The inability of a contract manufacturer or supplier to fulfill our supply requirements could materially impact future operating results.

(q) Revenue Recognition We enter into contracts with customers that can include various combinations of products and services which are generally distinct and accounted for as separate performance obligations. As a result, our contracts may contain multiple performance obligations. We determine whether arrangements are distinct based on whether the customer can benefit from the product or service on its own or together with other resources that are readily available and whether our commitment to transfer the product or service to the customer is separately identifiable from other obligations in the contract. We classify our hardware, perpetual software licenses, and SaaS as distinct performance obligations. Term software licenses represent multiple obligations, which include software licenses and software maintenance. In transactions where we deliver hardware or software, we are typically the principal and we record revenue and costs of goods sold on a gross basis. We refer to our term software licenses, security software licenses, SaaS, and associated service arrangements as subscription offers.

We recognize revenue upon transfer of control of promised goods or services in a contract with a customer in an amount that reflects the consideration we expect to receive in exchange for those products or services. Transfer of control occurs once the customer has the contractual right to use the product, generally upon shipment or once title and risk of loss has transferred to the customer. Transfer of control can also occur over time for software maintenance and services as the customer receives the benefit over the contract term. Our hardware and perpetual software licenses are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses include multiple performance obligations where the term licenses are recognized upfront upon transfer of control, with the associated software maintenance revenue recognized ratably over the contract term as services and software updates are provided. SaaS arrangements do not include the right for the customer to take possession of the software during the term, and therefore have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term as the customer consumes the services. On our product sales, we record consideration from shipping and handling on a gross basis within net product sales. We record our revenue net of any associated sales taxes.

An allowance for future sales returns is established based on historical trends in product return rates. The allowance for future sales returns as of July 25, 2020 and July 27, 2019 was $79 million and $84 million, respectively, and was recorded as a reduction of our accounts receivable and revenue.

Significant Judgments

Revenue is allocated among these performance obligations in a manner that reflects the consideration that we expect to be entitled to for the promised goods or services based on standalone selling prices (SSP). SSP is estimated for each distinct performance obligation and judgment may be required in their determination. The best evidence of SSP is the observable price of a product or service when we sell the goods separately in similar circumstances and to similar customers. In instances where SSP is not directly observable, we determine SSP using information that may include market conditions and other observable inputs.

We apply judgment in determining the transaction price as we may be required to estimate variable consideration when determining the amount of revenue to recognize. Variable consideration includes potential contractual penalties and various rebate, cooperative marketing and other incentive programs that we offer to our distributors, channel partners and customers. When determining the amount of revenue to recognize, we estimate the expected usage of these programs, applying the expected value or most likely estimate and update the estimate at each reporting period as actual utilization becomes available. We also consider the customers' right of return in determining the transaction price, where applicable.

We assess certain software licenses, such as for security software, that contain critical updates or upgrades which customers can download throughout the contract term. Without these updates or upgrades, the functionality of the software would diminish over a relatively short time period. These updates or upgrades provide the customer the full functionality of the purchased security software licenses and are required to maintain the security license's utility as the risks and threats in the environment are rapidly changing. In these circumstances, the revenue from these software arrangements is recognized as a single performance obligation satisfied over the contract term.

We adopted ASC 606 at the beginning of fiscal 2019 using the modified retrospective method to those contracts that were not completed as of July 28, 2018. For the additional information, see Note 3.

(r) Advertising Costs We expense all advertising costs as incurred. Advertising costs included within sales and marketing expenses were approximately $187 million, $204 million, and $166 million for fiscal 2020, 2019, and 2018, respectively.

(s) Share-Based Compensation Expense We measure and recognize the compensation expense for all share-based awards made to employees and directors, including employee stock options, restricted stock units (RSUs), performance-based restricted stock units (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 we estimate 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.

(t) 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.

(u) 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.

We account 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. We classify the liability for unrecognized tax benefits as current to the extent that we anticipate payment (or receipt) of cash within one year. Interest and penalties related to uncertain tax positions are recognized in the provision for income taxes.

(v) 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 and the amount of compensation cost for future service that we have not yet recognized are collectively assumed to be used to repurchase shares.

(w) Consolidation of Variable Interest Entities Our approach in assessing the consolidation requirement for variable interest entities 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. Should we conclude that we are the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity will be included in our Consolidated Financial Statements.

(x) 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 inputs into certain of our judgments, assumptions, and estimates considered the economic implications of the COVID-19 pandemic on our critical and significant accounting estimates. The actual results experienced by us may differ materially from our estimates. As the COVID-19 pandemic continues to develop, many of our estimates could require increased judgment and carry a higher degree of variability and volatility. As events continue to evolve our estimates may change materially in future periods.

(y) New Accounting Updates Recently Adopted

Leases In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Codification (ASC) 842, *Leases*, a new standard requiring lessees to recognize operating and finance lease liabilities on the balance sheet, as well as corresponding right-of-use (ROU) assets. This standard also made some changes to lessor accounting and aligns key aspects of the lessor accounting model with the revenue recognition standard. We adopted this standard at the beginning of fiscal 2020 and applied it at the beginning of the period of adoption and did not restate prior periods. In connection with the adoption of ASC 842, we recognized $1.2 billion of operating lease ROU assets, which was included in other assets and $1.2 billion of operating lease liabilities which was included in other current liabilities and other long-term liabilities. There were no transition adjustments recorded from the adoption of ASC 842 as a lessor.

We elected to apply the package of practical expedients permitted under the transition guidance within ASC 842 which does not require reassessment of initial direct costs, classification of a lease and definition of a lease. We also elected additional practical expedients which resulted in: i) allowing us not to reassess the accounting treatment for existing or expired land easements in transition; ii) combining lease and non-lease components and iii) not recording leases with an initial term of less than 12 months on our Consolidated Balance Sheet.

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

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 new standard replaces the incurred loss impairment model. Under this standard, we will be required to use a forward-looking expected credit loss model for accounts receivable, financing receivables, contract assets, and other financial instruments. Credit losses relating to available-for-sale debt securities will also be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. We will adopt this standard at the beginning of our first quarter of fiscal 2021 on a modified retrospective basis with the cumulative effect of adoption recorded as an adjustment to retained earnings. This standard will not have a material impact on our consolidated financial statements at adoption.

3. Revenue

(a) Disaggregation of Revenue

We disaggregate our revenue into groups of similar products and services that depict the nature, amount, and timing of revenue and cash flows for our various offerings. The sales cycle, contractual obligations, customer requirements, and go-to-market strategies differ for each of our product categories, resulting in different economic risk profiles for each category.

The following table presents this disaggregation of revenue (in millions):

Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Revenue:			
Infrastructure Platforms	**$ 27,122**	$ 30,099	$ 28,286
Applications	**5,568**	5,803	5,036
Security	**3,154**	2,821	2,388
Other Products	**135**	281	999
Total Product	**35,978**	39,005	36,709
Services	**13,323**	12,899	12,621
Total (1)	**$ 49,301**	$ 51,904	$ 49,330

Amounts may not sum due to rounding. We have made certain reclassifications to the product revenue amounts for prior years to conform to the current year's presentation.

(1) During the second quarter of fiscal 2019, we completed the divestiture of the Service Provider Video Software Solutions (SPVSS) business. Total revenue includes SPVSS business revenue of $168 million and $903 million for fiscal 2019 and 2018, respectively.

Infrastructure Platforms consist of our core networking technologies of switching, routing, wireless, and data center products that are designed to work together to deliver networking capabilities and transport and/or store data. These technologies consist of both hardware and software offerings, including software licenses and software-as-a-service (SaaS), that help our customers build networks, automate, orchestrate, integrate, and digitize data. We are shifting and expanding more of our business to software and subscriptions across our core networking portfolio. Our hardware and perpetual software in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses are multiple performance obligations where the term license is recognized upfront upon transfer of control with the associated software maintenance revenue recognized ratably over the contract term. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Applications consists of offerings that utilize the core networking and data center platforms to provide their functions. The products consist primarily of software offerings, including software licenses and SaaS, as well as hardware. Our perpetual software and hardware in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses are multiple performance obligations where the term license is recognized upfront upon transfer of control with the associated software maintenance revenue recognized ratably over the contract term. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Security primarily includes our network security, cloud and email security, identity and access management, advanced threat protection, and unified threat management products. These products consist of both hardware and software offerings, including software licenses and SaaS. Updates and upgrades for the term software licenses are critical for our software to perform its intended commercial purpose because of the continuous need for our software to secure our customers' network environments against frequent threats. Therefore, security software licenses are generally represented by a single distinct performance obligation with revenue recognized ratably over the contract term. Our hardware and perpetual software in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Other Products primarily include our Service Provider Video Software Solutions and cloud and system management products. On October 28, 2018, we completed the sale of the SPVSS business. These products include both hardware and software licenses. Our offerings in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control.

In addition to our product offerings, we provide a broad range of service and support options for our customers, including technical support services and advanced services. Technical support services represent the majority of these offerings which are distinct performance obligations that are satisfied over time with revenue recognized ratably over the contract term. Advanced services are distinct performance obligations that are satisfied over time with revenue recognized as services are delivered.

The sales arrangements as discussed above are typically made pursuant to customer purchase orders based on master purchase or partner agreements. Cash is received based on our standard payment terms which is typically 30 days. We provide financing arrangements to customers for all of our hardware, software and service offerings. Refer to Note 9 for additional information. For these arrangements, cash is typically received over time.

(b) Contract Balances

Accounts receivable, net was $5.5 billion as of each of July 25, 2020 and July 27, 2019, as reported on the Consolidated Balance Sheet.

Contract assets consist of unbilled receivables and are recorded when revenue is recognized in advance of scheduled billings to our customers. These amounts are primarily related to software and service arrangements where transfer of control has occurred but we have not yet invoiced. As of July 25, 2020 and July 27, 2019, our contract assets for these unbilled receivables were $1.2 billion and $860 million, respectively, and were included in other current assets and other assets.

Contract liabilities consist of deferred revenue. Deferred revenue was $20.4 billion as of July 25, 2020 compared to $18.5 billion as of July 27, 2019. We recognized approximately $10.6 billion of revenue during fiscal 2020 that was included in the deferred revenue balance at July 27, 2019.

(c) Capitalized Contract Acquisition Costs

We capitalize direct and incremental costs incurred to acquire contracts, primarily sales commissions, for which the associated revenue is expected to be recognized in future periods. We incur these costs in connection with both initial contracts and renewals. These costs are initially deferred and typically amortized over the term of the customer contract which corresponds to the period of benefit. Deferred sales commissions were $732 million and $750 million as of July 25, 2020 and July 27, 2019, respectively, and were included in other current assets and other assets. The amortization expense associated with these costs was $477 million and $471 million for fiscal 2020 and 2019, respectively, and was included in sales and marketing expenses.

4. Acquisitions and Divestitures

(a) Acquisition Summary

We completed six acquisitions during fiscal 2020. A summary of the allocation of the total purchase consideration is presented as follows (in millions):

Fiscal 2020	**Purchase Consideration**	**Net Tangible Assets Acquired (Liabilities Assumed)**	**Purchased Intangible Assets**	**Goodwill**
Total acquisitions (six in total)	**$ 359**	**$ (11)**	**$ 172**	**$ 198**

The total purchase consideration related to our acquisitions completed during fiscal 2020 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately $23 million.

Fiscal 2019 Acquisitions

Allocation of the purchase consideration for acquisitions completed in fiscal 2019 is summarized as follows (in millions):

Fiscal 2019	Purchase Consideration	Net Tangible Assets Acquired (Liabilities Assumed)	Purchased Intangible Assets	Goodwill
Duo	$ 2,025	$ (57)	$ 342	$ 1,740
Luxtera	596	(19)	319	296
Others (three in total)	65	2	11	52
Total	$ 2,686	$ (74)	$ 672	$ 2,088

On September 28, 2018, we completed our acquisition of privately held Duo Security, Inc. ("Duo"), a leading provider of unified access security and multi-factor authentication delivered through the cloud. Revenue from the Duo acquisition has been included in our Security product category.

On February 6, 2019, we completed our acquisition of Luxtera, Inc. ("Luxtera"), a privately held semiconductor company. Revenue from the Luxtera acquisition has been included in our Infrastructure Platforms product category.

The total purchase consideration related to our acquisitions completed during fiscal 2019 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately $100 million.

Fiscal 2018 Acquisitions

In fiscal 2018, we completed eight acquisitions for total purchase consideration of $3.2 billion.

(b) Divestiture of Service Provider Video Software Solutions Business

On October 28, 2018, we completed the sale of the Service Provider Video Software Solutions business. This business had tangible assets of approximately $160 million (primarily comprised of accounts receivables, inventories and various other current and long-term assets) and net intangible assets and goodwill (based on relative fair value) of $340 million. In addition, the business had total liabilities of approximately $200 million (primarily comprised of deferred revenue and various other current and long-term liabilities). We recognized an immaterial gain from this transaction in fiscal 2019.

We completed two divestitures during fiscal 2018. The financial statement impact of these divestitures was not material for fiscal 2018.

(c) Pending Acquisitions at Year End

On July 9, 2019, we announced our intent to acquire Acacia Communications, Inc. (“Acacia”), a public fabless semiconductor company that develops, manufactures and sells high-speed coherent optical interconnect products that are designed to transform communications networks through improvements in performance, capacity and cost.

Under the terms of the agreement, we have agreed to pay total consideration of approximately $2.6 billion, net of cash and marketable securities, to acquire Acacia. The acquisition is expected to close during the first half of fiscal 2021, subject to customary closing conditions and regulatory approvals. Upon close of the acquisition, revenue from Acacia will be included in our Infrastructure Platforms product category.

On August 7, 2020, we completed the acquisition of ThousandEyes, Inc. (“ThousandEyes”), a privately-held company. ThousandEyes’ Internet and Cloud intelligence platform delivers deep visibility and insights into the digital delivery of applications and services over the internet. We expect that most of the purchase price for the acquisition of ThousandEyes will be allocated to goodwill and purchased intangible assets. The financial statement impact of this acquisition will not have a material impact to our consolidated financial statements.

(d) Other Acquisition and Divestiture Information

Total transaction costs related to our acquisition and divestiture activities during fiscal 2020, 2019, and 2018 were $21 million, $21 million, and $41 million, respectively. These transaction costs were expensed as incurred in G&A expenses in the Consolidated Statements of Operations.

The goodwill generated from our acquisitions completed during fiscal 2020 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 fiscal 2020, 2019, and 2018 have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to our financial results.

5. Goodwill and Purchased Intangible Assets

(a) Goodwill

The following tables present the goodwill allocated to our reportable segments as of July 25, 2020 and July 27, 2019, as well as the changes to goodwill during fiscal 2020 and 2019 (in millions):

	Balance at July 27, 2019	Acquisitions	Foreign Currency Translation and Other	Balance at July 25, 2020
Americas	$ 21,120	$ 132	$ 52	$ 21,304
EMEA	7,977	44	19	8,040
APJC	4,432	22	8	4,462
Total	$ 33,529	$ 198	$ 79	$ 33,806

	Balance at July 28, 2018	Acquisitions & Divestitures	Foreign Currency Translation and Other	Balance at July 27, 2019
Americas	$ 19,998	$ 1,240	$ (118)	$ 21,120
EMEA	7,529	486	(38)	7,977
APJC	4,179	274	(21)	4,432
Total	$ 31,706	$ 2,000	$ (177)	$ 33,529

(b) Purchased Intangible Assets

The following tables present details of our intangible assets acquired through acquisitions completed during fiscal 2020 and 2019 (in millions, except years):

	FINITE LIVES						INDEFINITE LIVES	
	TECHNOLOGY		CUSTOMER RELATIONSHIPS		OTHER		IPR&D	TOTAL
Fiscal 2020	**Weighted-Average Useful Life (in Years)**	**Amount**	**Weighted-Average Useful Life (in Years)**	**Amount**	**Weighted-Average Useful Life (in Years)**	**Amount**	**Amount**	**Amount**
Total acquisitions (six in total)	**4.8**	**$ 161**	**4.2**	**$ 10**	**1.5**	**$ 1**	**$ —**	**$ 172**

	FINITE LIVES						INDEFINITE LIVES	
	TECHNOLOGY		CUSTOMER RELATIONSHIPS		OTHER		IPR&D	TOTAL
Fiscal 2019	Weighted-Average Useful Life (in Years)	Amount	Weighted-Average Useful Life (in Years)	Amount	Weighted-Average Useful Life (in Years)	Amount	Amount	Amount
Duo	5.0	$ 153	5.0	$ 94	2.5	$ 18	$ 77	$ 342
Luxtera	4.0	2	5.0	58	1.6	3	256	319
Others (three in total)	4.4	11	—	—	—	—	—	11
Total		$ 166		$ 152		$ 21	$ 333	$ 672

The following tables present details of our purchased intangible assets (in millions):

July 25, 2020	**Gross**	**Accumulated Amortization**	**Net**
Purchased intangible assets with finite lives:			
Technology	**$ 3,298**	**$ (2,336)**	**$ 962**
Customer relationships	**760**	**(365)**	**395**
Other	**26**	**(20)**	**6**
Total purchased intangible assets with finite lives	**4,084**	**(2,721)**	**1,363**
In-process research and development, with indefinite lives	**213**	**—**	**213**
Total	**$ 4,297**	**$ (2,721)**	**$ 1,576**

July 27, 2019	Gross	Accumulated Amortization	Net
Purchased intangible assets with finite lives:			
Technology	$ 3,270	$ (1,933)	$ 1,337
Customer relationships	840	(331)	509
Other	41	(22)	19
Total purchased intangible assets with finite lives	4,151	(2,286)	1,865
In-process research and development, with indefinite lives	336	—	336
Total	$ 4,487	$ (2,286)	$ 2,201

Purchased intangible assets include intangible assets acquired through acquisitions as well as through direct purchases or licenses.

The following table presents the amortization of purchased intangible assets, including impairment charges (in millions):

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Amortization of purchased intangible assets:			
Cost of sales	**$ 659**	$ 624	$ 640
Operating expenses	**141**	150	221
Total	**$ 800**	$ 774	$ 861

The estimated future amortization expense of purchased intangible assets with finite lives as of July 25, 2020 is as follows (in millions):

Fiscal Year	Amount
2021	$ 633
2022	$ 371
2023	$ 229
2024	$ 118
2025	$ 12

6. Restructuring and Other Charges

In the first quarter of fiscal 2021, we initiated a restructuring plan (the "Fiscal 2021 Plan"), which includes a voluntary early retirement program, in order to realign the organization and enable further investment in key priority areas with estimated pretax charges of approximately $900 million. These aggregate pretax charges will be primarily cash-based and will consist of severance and other one-time termination benefits, and other costs. We expect the plan to be substantially completed in fiscal 2021.

We initiated a restructuring plan during fiscal 2020 (the "Fiscal 2020 Plan") in order to realign the organization and enable further investment in key priority areas. The total pretax charges are estimated to be approximately $300 million. These aggregate pretax charges related to the Fiscal 2020 Plan are primarily cash-based and consist of employee severance and other one-time termination benefits, and other costs. In connection with the Fiscal 2020 Plan, we incurred charges of $255 million during fiscal 2020. We expect the Fiscal 2020 Plan to be substantially completed in fiscal 2021.

In prior years, we initiated restructuring plans in order to realign our organization and enable further investment in key priority areas. The aggregate pretax charges related to these plans were primarily cash-based and consisted of employee severance and other one-time termination benefits, and other associated costs. These plans have been completed.

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

	FISCAL 2018 AND PRIOR PLANS		FISCAL 2020 PLAN		
	Employee Severance	Other	Employee Severance	Other	Total
Liability as of July 29, 2017	$ 74	$ 43	$ —	$ —	$ 117
Charges	319	39	—	—	358
Cash payments	(335)	(37)	—	—	(372)
Non-cash items	2	(32)	—	—	(30)
Liability as of July 28, 2018	60	13	—	—	73
Charges	252	70	—	—	322
Cash payments	(289)	(10)	—	—	(299)
Non-cash items	(1)	(62)	—	—	(63)
Liability as of July 27, 2019	**22**	**11**	**—**	**—**	**33**
Charges	**209**	**17**	**144**	**111**	**481**
Cash payments	**(224)**	**(3)**	**(93)**	**(7)**	**(327)**
Non-cash items	**—**	**(23)**	**—**	**(92)**	**(115)**
Liability as of July 25, 2020	**$ 7**	**$ 2**	**$ 51**	**$ 12**	**$ 72**

7. Balance Sheet Details

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

	July 25, 2020	July 27, 2019
Cash and cash equivalents	$ 11,809	$ 11,750
Restricted cash included in other current assets	—	21
Restricted cash included in other assets	3	1
Total cash, cash equivalents, and restricted cash	$ 11,812	$ 11,772

Inventories:		
Raw materials	$ 456	$ 374
Work in process	25	10
Finished goods:		
Deferred cost of sales	59	109
Manufactured finished goods	542	643
Total finished goods	601	752
Service-related spares	184	225
Demonstration systems	16	22
Total	$ 1,282	$ 1,383

Our provision for inventory was $74 million, $77 million, and $63 million in fiscal 2020, 2019, and 2018, respectively.

Property and equipment, net:		
Gross property and equipment:		
Land, buildings, and building and leasehold improvements	$ 4,252	$ 4,545
Computer equipment and related software	875	922
Production, engineering, and other equipment	5,163	5,711
Operating lease assets	337	485
Furniture, fixtures and other	387	376
Total gross property and equipment	11,014	12,039
Less: accumulated depreciation and amortization	(8,561)	(9,250)
Total	$ 2,453	$ 2,789

Deferred revenue:		
Service	$ 12,551	$ 11,709
Product	7,895	6,758
Total	$ 20,446	$ 18,467
Reported as:		
Current	$ 11,406	$ 10,668
Noncurrent	9,040	7,799
Total	$ 20,446	$ 18,467

Remaining Performance Obligations:		
Product	$ 11,261	$ 9,603
Service	17,093	15,702
Total	$ 28,354	$ 25,305

Remaining Performance Obligations (RPO) are comprised of deferred revenue plus unbilled contract revenue. As of July 25, 2020, the aggregate amount of RPO was comprised of $20.4 billion of deferred revenue and $7.9 billion of unbilled contract revenue. We expect approximately 54% of this amount to be recognized as revenue over the next year. As of July 27, 2019, the aggregate amount of RPO was comprised of $18.5 billion of deferred revenue and $6.8 billion of unbilled contract revenue. Unbilled contract revenue represents noncancelable contracts for which we have not invoiced, have an obligation to perform, and revenue has not yet been recognized in the financial statements.

8. Leases

(a) Lessee Arrangements

As of July 25, 2020, our operating lease right-of-use assets were $921 million and were recorded in other assets, and our operating lease liabilities were $1.0 billion, of which $341 million was included in other current liabilities and $661 million was included in other long-term liabilities. The weighted-average lease term was 4.0 years and the weighted-average discount rate was 1.5% as of July 25, 2020.

The components of our lease expenses were as follows (in millions):

Year Ended	July 25, 2020
Operating lease expense	$ 428
Short-term lease expense	69
Variable lease expense	157
Total lease expense	$ 654

Supplemental information related to our operating leases is as follows (in millions):

Year Ended	July 25, 2020
Cash paid for amounts included in the measurement of lease liabilities — operating cash flows	$ 413
Right-of-use assets obtained in exchange for operating leases liabilities	$ 197

The maturities of our operating leases (undiscounted) as of July 25, 2020 are as follows (in millions):

Fiscal Year	Amount
2021	$ 354
2022	247
2023	192
2024	120
2025	68
Thereafter	52
Total lease payments	1,033
Less interest	(31)
Total	$ 1,002

Prior to the adoption of the new leasing standard, future minimum lease payments under all noncancelable operating leases with an initial term in excess of one year as of July 27, 2019 were as follows (in millions):

Fiscal Year	Amount
2020	$ 441
2021	299
2022	195
2023	120
2024	70
Thereafter	54
Total	$ 1,179

(b) Lessor Arrangements

Our leases primarily represent sales-type leases with terms of four years on average. We provide leasing of our equipment and complementary third-party products primarily through our channel partners and distributors, for which the income arising from these leases is recognized through interest income. Interest income for fiscal 2020 was $94 million and was included in interest income in the Consolidated Statement of Operations. The net investment of our lease receivables is measured at the commencement date as the gross lease receivable, residual value less unearned income and allowance for credit loss. For additional information, see Note 9.

Future minimum lease payments on our lease receivables as of July 25, 2020 are summarized as follows (in millions):

Fiscal Year	Amount
2021	$ 946
2022	590
2023	353
2024	166
2025	72
Total	2,127
Less: Present value of lease payments	2,013
Difference between undiscounted cash flows and discounted cash flows	$ 114

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

Prior to the adoption of the new leasing standard, future minimum lease payments on our lease receivables as of July 27, 2019 were summarized as follows (in millions):

Fiscal Year	Amount
2020	$ 1,028
2021	702
2022	399
2023	185
2024	53
Total	$ 2,367

We provide 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 held by Cisco and the associated accumulated depreciation are summarized as follows (in millions):

	July 25, 2020	July 27, 2019
Operating lease assets	**$ 337**	$ 485
Accumulated depreciation	**(198)**	(306)
Operating lease assets, net	**$ 139**	$ 179

Our lease income for fiscal 2020 was $190 million and was included in product revenue in the Consolidated Statement of Operations.

Minimum future rentals on noncancelable operating leases as of July 25, 2020 are summarized as follows (in millions):

Fiscal Year	Amount
2021	$ 74
2022	27
2023	7
Total	$ 108

9. Financing Receivables

(a) Financing Receivables

Financing receivables primarily consist of lease receivables, loan receivables, and financed service contracts. Lease receivables represent sales-type leases resulting from the sale of Cisco's and complementary third-party products and are typically collateralized by a security interest in the underlying assets. Lease receivables consist of arrangements with terms of four years on average. Loan receivables represent financing arrangements related to the sale of our hardware, software, and services, which may include additional funding for other costs associated with network installation and integration of our products and services. Loan receivables have terms of three years on average. Financed service contracts include financing receivables related to technical support and advanced services. 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 our financing receivables is presented as follows (in millions):

July 25, 2020		**Lease Receivables**		**Loan Receivables**		**Financed Service Contracts**		**Total**
Gross	**$**	**2,127**	**$**	**5,937**	**$**	**2,830**	**$**	**10,894**
Residual value		**123**		**—**		**—**		**123**
Unearned income		**(114)**		**—**		**—**		**(114)**
Allowance for credit loss		**(48)**		**(81)**		**(9)**		**(138)**
Total, net	**$**	**2,088**	**$**	**5,856**	**$**	**2,821**	**$**	**10,765**
Reported as:								
Current	**$**	**918**	**$**	**2,692**	**$**	**1,441**	**$**	**5,051**
Noncurrent		**1,170**		**3,164**		**1,380**		**5,714**
Total, net	**$**	**2,088**	**$**	**5,856**	**$**	**2,821**	**$**	**10,765**

July 27, 2019		Lease Receivables		Loan Receivables		Financed Service Contracts		Total
Gross	$	2,367	$	5,438	$	2,369	$	10,174
Residual value		142		—		—		142
Unearned income		(137)		—		—		(137)
Allowance for credit loss		(46)		(71)		(9)		(126)
Total, net	$	2,326	$	5,367	$	2,360	$	10,053
Reported as:								
Current	$	1,029	$	2,653	$	1,413	$	5,095
Noncurrent		1,297		2,714		947		4,958
Total, net	$	2,326	$	5,367	$	2,360	$	10,053

(b) Credit Quality of Financing Receivables

Gross receivables, excluding residual value, less unearned income categorized by our internal credit risk rating as of July 25, 2020 and July 27, 2019 are summarized as follows (in millions):

	INTERNAL CREDIT RISK RATING							
July 25, 2020		**1 to 4**		**5 to 6**		**7 and Higher**		**Total**
Lease receivables	**$**	**992**	**$**	**952**	**$**	**69**	**$**	**2,013**
Loan receivables		**3,808**		**1,961**		**168**		**5,937**
Financed service contracts		**1,645**		**1,153**		**32**		**2,830**
Total	**$**	**6,445**	**$**	**4,066**	**$**	**269**	**$**	**10,780**

	INTERNAL CREDIT RISK RATING							
July 27, 2019		1 to 4		5 to 6		7 and Higher		Total
Lease receivables	$	1,204	$	991	$	35	$	2,230
Loan receivables		3,367		1,920		151		5,438
Financed service contracts		1,413		939		17		2,369
Total	$	5,984	$	3,850	$	203	$	10,037

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

Our 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.

The following tables present the aging analysis of gross receivables, excluding residual value and less unearned income as of July 25, 2020 and July 27, 2019 (in millions):

July 25, 2020	DAYS PAST DUE (INCLUDES BILLED AND UNBILLED) 31 - 60	61 - 90	91+	Total Past Due	Current	Total	Nonaccrual Financing Receivables	Impaired Financing Receivables
Lease receivables	**$ 29**	**$ 47**	**$ 48**	**$ 124**	**$ 1,889**	**$ 2,013**	**$ 43**	**$ 43**
Loan receivables	**129**	**78**	**78**	**285**	**5,652**	**5,937**	**65**	**65**
Financed service contracts	**69**	**75**	**124**	**268**	**2,562**	**2,830**	**4**	**4**
Total	**$ 227**	**$ 200**	**$ 250**	**$ 677**	**$ 10,103**	**$ 10,780**	**$ 112**	**$ 112**

July 27, 2019	DAYS PAST DUE (INCLUDES BILLED AND UNBILLED) 31 - 60	61 - 90	91+	Total Past Due	Current	Total	Nonaccrual Financing Receivables	Impaired Financing Receivables
Lease receivables	$ 101	$ 42	$ 291	$ 434	$ 1,796	$ 2,230	$ 13	$ 13
Loan receivables	257	67	338	662	4,776	5,438	31	31
Financed service contracts	145	131	271	547	1,822	2,369	3	3
Total	$ 503	$ 240	$ 900	$ 1,643	$ 8,394	$ 10,037	$ 47	$ 47

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.

As of July 25, 2020, we had financing receivables of $67 million, net of unbilled or current receivables, that were greater than 120 days plus past due but remained on accrual status as they are well secured and in the process of collection. Such balance was $215 million as of July 27, 2019.

(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	Total
Allowance for credit loss as of July 27, 2019	**$ 46**	**$ 71**	**$ 9**	**$ 126**
Provisions (benefits)	**5**	**32**	**1**	**38**
Recoveries (write-offs), net	**(3)**	**(19)**	**—**	**(22)**
Foreign exchange and other	**—**	**(3)**	**(1)**	**(4)**
Allowance for credit loss as of July 25, 2020	**$ 48**	**$ 81**	**$ 9**	**$ 138**

	CREDIT LOSS ALLOWANCES Lease Receivables	Loan Receivables	Financed Service Contracts	Total
Allowance for credit loss as of July 28, 2018	$ 135	$ 60	$ 10	$ 205
Provisions (benefits)	(54)	11	27	(16)
Recoveries (write-offs), net	(14)	—	(28)	(42)
Foreign exchange and other	(21)	—	—	(21)
Allowance for credit loss as of July 27, 2019	$ 46	$ 71	$ 9	$ 126

	CREDIT LOSS ALLOWANCES			
	Lease Receivables	Loan Receivables	Financed Service Contracts	Total
Allowance for credit loss as of July 29, 2017	$ 162	$ 103	$ 30	$ 295
Provisions (benefits)	(26)	(43)	(20)	(89)
Recoveries (write-offs), net	(1)	(5)	—	(6)
Foreign exchange and other	—	5	—	5
Allowance for credit loss as of July 28, 2018	$ 135	$ 60	$ 10	$ 205

10. Available-for-Sale Debt and Equity Investments

The following table summarizes our available-for-sale debt investments and equity investments (in millions):

	July 25, 2020	July 27, 2019
Available-for-sale debt investments	**$ 17,610**	$ 21,660
Marketable equity securities	**—**	3
Total investments	**17,610**	21,663
Non-marketable equity securities included in other assets	**1,207**	1,113
Equity method investments included in other assets	**71**	87
Total	**$ 18,888**	$ 22,863

(a) Summary of Available-for-Sale Debt Investments

The following tables summarize our available-for-sale debt investments (in millions):

July 25, 2020	**Amortized Cost**	**Gross Unrealized Gains**	**Gross Unrealized Losses**	**Fair Value**
U.S. government securities	**$ 2,614**	**$ 71**	**$ —**	**$ 2,685**
U.S. government agency securities	**110**	**—**	**—**	**110**
Corporate debt securities	**11,549**	**334**	**(6)**	**11,877**
U.S. agency mortgage-backed securities	**1,987**	**49**	**(1)**	**2,035**
Commercial paper	**727**	**—**	**—**	**727**
Certificates of deposit	**176**	**—**	**—**	**176**
Total	**$ 17,163**	**$ 454**	**$ (7)**	**$ 17,610**

July 27, 2019	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government securities	$ 808	$ 1	$ (1)	$ 808
U.S. government agency securities	169	—	—	169
Corporate debt securities	19,188	103	(29)	19,262
U.S. agency mortgage-backed securities	1,425	7	(11)	1,421
Total	$ 21,590	$ 111	$ (41)	$ 21,660

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

Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Gross realized gains	**$ 70**	$ 17	$ 16
Gross realized losses	**(28)**	(30)	(258)
Total	**$ 42**	$ (13)	$ (242)

The following tables present the breakdown of the available-for-sale debt investments with gross unrealized losses and the duration that those losses had been unrealized at July 25, 2020 and July 27, 2019 (in millions):

July 25, 2020	**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**
U.S. government agency securities	**$ 33**	**$ —**	**$ —**	**$ —**	**$ 33**	**$ —**
Corporate debt securities	**1,060**	**(6)**	**3**	**—**	**1,063**	**(6)**
U.S. agency mortgage-backed securities	**265**	**(1)**	**—**	**—**	**265**	**(1)**
Total	**$ 1,358**	**$ (7)**	**$ 3**	**$ —**	**$ 1,361**	**$ (7)**

July 27, 2019	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
U.S. government securities	$ 204	$ —	$ 488	$ (1)	$ 692	$ (1)
U.S. government agency securities	—	—	169	—	169	—
Corporate debt securities	2,362	(4)	5,271	(25)	7,633	(29)
U.S. agency mortgage-backed securities	123	—	847	(11)	970	(11)
Total	$ 2,689	$ (4)	$ 6,775	$ (37)	$ 9,464	$ (41)

As of July 25, 2020, for available-for-sale debt investments that were in an unrealized loss position, we have determined that no other-than-temporary impairments were required to be recognized.

The following table summarizes the maturities of our available-for-sale debt investments as of July 25, 2020 (in millions):

	Amortized Cost	Fair Value
Within 1 year	$ 5,773	$ 5,812
After 1 year through 5 years	7,360	7,532
After 5 years through 10 years	2,032	2,218
After 10 years	11	13
Mortgage-backed securities with no single maturity	1,987	2,035
Total	$ 17,163	$ 17,610

Actual maturities may differ from the contractual maturities because borrowers may have the right to call or prepay certain obligations.

(b) Summary of Equity Investments

Gains and losses recognized on our marketable and non-marketable equity securities are summarized below (in millions):

	July 25, 2020	July 27, 2019
Net gains and losses recognized during the period on equity investments	**$ 63**	$ 58
Less: Net gains and losses recognized on equity investments sold	**(76)**	(69)
Net unrealized gains and losses recognized during reporting period on equity securities still held at the reporting date	**$ (13)**	$ (11)

We recorded adjustments to the carrying value of our non-marketable equity securities measured using the measurement alternative as follows (in millions):

	July 25, 2020	July 27, 2019
Adjustments to non-marketable equity securities measured using the measurement alternative:		
Upward adjustments	**$ 28**	$ 26
Downward adjustments, including impairments	**(41)**	(57)
Net adjustments	**$ (13)**	$ (31)

As of July 25, 2020 and July 27, 2019, we held equity interests in certain private equity funds of $0.7 billion and $0.6 billion, respectively, which are accounted for under the NAV practical expedient.

(c) Variable Interest Entities

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 are evaluated for consolidation under the variable interest or voting interest entity models. We evaluate on an ongoing basis our investments in these privately held companies and our customer financings, and have determined that as of July 25, 2020, there were no significant variable interest or voting interest entities required to be consolidated in our Consolidated Financial Statements.

As of July 25, 2020, the carrying value of our investments in privately held companies was $1.3 billion. $0.7 billion of such investments are considered to be in variable interest entities which are unconsolidated. We have total funding commitments of $0.3 billion related to these privately held investments, some of which may be based on the achievement of certain agreed-upon milestones, and some of which are required to be funded on demand. The carrying value of these investments and the additional funding commitments collectively represent our maximum exposure related to these privately held investments.

11. 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 were as follows (in millions):

	JULY 25, 2020 FAIR VALUE MEASUREMENTS				JULY 27, 2019 FAIR VALUE MEASUREMENTS		
	Level 1	**Level 2**	**Level 3**	**Total Balance**	Level 1	Level 2	Total Balance
Assets:							
Cash equivalents:							
Money market funds	**$ 10,024**	**$ —**	**$ —**	**$ 10,024**	$ 10,083	$ —	$ 10,083
Corporate debt securities	—	8	—	**8**	—	—	—
Available-for-sale debt investments:							
U.S. government securities	—	**2,685**	—	**2,685**	—	808	808
U.S. government agency securities	—	**110**	—	**110**	—	169	169
Corporate debt securities	—	**11,877**	—	**11,877**	—	19,262	19,262
U.S. agency mortgage-backed securities	—	**2,035**	—	**2,035**	—	1,421	1,421
Commercial paper	—	**727**	—	**727**	—	—	—
Certificates of deposit	—	**176**	—	**176**	—	—	—
Equity investments:							
Marketable equity securities	—	—	—	—	3	—	3
Derivative assets	—	**190**	**1**	**191**	—	89	89
Total	**$ 10,024**	**$ 17,808**	**$ 1**	**$ 27,833**	$ 10,086	$ 21,749	$ 31,835
Liabilities:							
Derivative liabilities	**$ —**	**$ 10**	**$ —**	**$ 10**	$ —	$ 15	$ 15
Total	**$ —**	**$ 10**	**$ —**	**$ 10**	$ —	$ 15	$ 15

Level 1 marketable equity securities are determined by using quoted prices in active markets for identical assets. Level 2 available-for-sale debt investments are priced using quoted market prices for similar instruments or nonbinding market prices that are corroborated by observable market data. Our 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. We 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 we could not corroborate with market data.

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

The carrying value of our non-marketable equity securities recorded to fair value on a non-recurring basis is adjusted for observable transactions for identical or similar investments of the same issuer or impairment. These securities are classified as Level 3 in the fair value hierarchy because we estimate the value based on valuation methods using the observable transaction price at the transaction date and other unobservable inputs such as volatility, rights, and obligations of the securities we hold.

The fair value for purchased intangible 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. The remaining carrying value of the specific purchased intangible assets that were impaired were zero as of July 25, 2020.

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 restructuring and other charges. We recognized an impairment charge of $65 million during fiscal 2020 and the remaining carrying value of the property held for sale that was impaired was $9 million as of July 25, 2020.

(c) Other Fair Value Disclosures

The fair value of our short-term loan receivables and financed service contracts approximates their carrying value due to their short duration. The aggregate carrying value of our long-term loan receivables and financed service contracts as of July 25, 2020 and July 27, 2019 was $4.5 billion and $3.7 billion, respectively. The estimated fair value of our long-term loan receivables and financed service contracts approximates their carrying value. We use significant unobservable inputs in determining discounted cash flows to estimate the fair value of our long-term loan receivables and financed service contracts, and therefore they are categorized as Level 3.

As of July 25, 2020 and July 27, 2019, the estimated fair value of our short-term debt approximates its carrying value due to the short maturities. As of July 25, 2020, the fair value of our senior notes and other long-term debt was $17.4 billion, with a carrying amount of $14.6 billion. This compares to a fair value of $22.1 billion and a carrying amount of $20.5 billion as of July 27, 2019. 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.

12. Borrowings

(a) Short-Term Debt

The following table summarizes our short-term debt (in millions, except percentages):

	July 25, 2020		July 27, 2019	
	Amount	**Effective Rate**	Amount	Effective Rate
Current portion of long-term debt	**$ 3,005**	**2.07%**	$ 5,998	3.20%
Commercial paper	—	—	4,193	2.34%
Total short-term debt	**$ 3,005**		$ 10,191	

We have a short-term debt financing program of up to $10.0 billion through the issuance of commercial paper notes. We use the proceeds from the issuance of commercial paper notes for general corporate purposes.

The effective rates for the short- and long-term debt include the interest on the notes, the accretion of the discount, the issuance costs, and, if applicable, adjustments related to hedging.

(b) Long-Term Debt

The following table summarizes our long-term debt (in millions, except percentages):

	Maturity Date	July 25, 2020 Amount	July 25, 2020 Effective Rate	July 27, 2019 Amount	July 27, 2019 Effective Rate
Senior notes:					
Floating-rate notes:					
Three-month LIBOR plus 0.34%	September 20, 2019	$ —	—	$ 500	2.77%
Fixed-rate notes:					
1.40%	September 20, 2019	—	—	1,500	1.48%
4.45%	January 15, 2020	—	—	2,500	4.72%
2.45%	June 15, 2020	—	—	1,500	2.54%
2.20%	February 28, 2021	**2,500**	**2.30%**	2,500	2.30%
2.90%	March 4, 2021	**500**	**0.94%**	500	3.14%
1.85%	September 20, 2021	**2,000**	**1.90%**	2,000	1.90%
3.00%	June 15, 2022	**500**	**1.21%**	500	3.36%
2.60%	February 28, 2023	**500**	**2.68%**	500	2.68%
2.20%	September 20, 2023	**750**	**2.27%**	750	2.27%
3.625%	March 4, 2024	**1,000**	**1.06%**	1,000	3.25%
3.50%	June 15, 2025	**500**	**1.37%**	500	3.52%
2.95%	February 28, 2026	**750**	**3.01%**	750	3.01%
2.50%	September 20, 2026	**1,500**	**2.55%**	1,500	2.55%
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%
Total		**14,500**		20,500	
Unaccreted discount/issuance costs		**(88)**		(100)	
Hedge accounting fair value adjustments		**171**		73	
Total		**$ 14,583**		$ 20,473	
Reported as:					
Short-term debt		**$ 3,005**		$ 5,998	
Long-term debt		**11,578**		14,475	
Total		**$ 14,583**		$ 20,473	

We have entered into interest rate swaps in prior periods with an aggregate notional amount of $2.5 billion designated as fair value hedges of certain of our fixed-rate senior notes. 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 13.

Interest is payable semiannually on each class of the senior fixed-rate notes. Each of the senior fixed-rate notes is redeemable by us at any time, subject to a make-whole premium. The senior notes rank at par with the commercial paper notes that have been issued in the future pursuant to our short-term debt financing program, as discussed above under “(a) Short-Term Debt.” As of July 25, 2020, we were in compliance with all debt covenants.

As of July 25, 2020, future principal payments for long-term debt, including the current portion, are summarized as follows (in millions):

Fiscal Year	Amount
2021	$ 3,000
2022	2,500
2023	500
2024	1,750
2025	500
Thereafter	6,250
Total	$ 14,500

(c) Credit Facility

On May 15, 2020, we entered into a 364-day credit agreement with certain institutional lenders that provides for a $2.75 billion unsecured revolving credit facility that is scheduled to expire on May 14, 2021. The credit agreement is structured as an amendment and restatement of our five-year credit facility which would have terminated on May 15, 2020, the end of its five-year term. As of July 25, 2020, 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.

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 Services, LLC and Moody's Investors Service, Inc., provided that in no event will the Eurocurrency Rate be less than 0.25%. 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. The credit agreement requires that we comply with certain covenants, including that we maintain an interest coverage ratio as defined in the agreement.

13. Derivative Instruments

(a) Summary of Derivative Instruments

We use derivative instruments primarily to manage exposures to foreign currency exchange rate, interest rate, and equity price risks. Our 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. Our derivatives expose us to credit risk to the extent that the counterparties may be unable to meet the terms of the agreement. We do, however, seek to mitigate such risks by limiting our 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 our 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 25, 2020**	July 27, 2019	Balance Sheet Line Item	**July 25, 2020**	July 27, 2019
Derivatives designated as hedging instruments:						
Foreign currency derivatives	Other current assets	**$ 7**	$ 5	Other current liabilities	**$ 2**	$ 8
Interest rate derivatives	Other current assets	**6**	—	Other current liabilities	**—**	1
Interest rate derivatives	Other assets	**169**	75	Other long-term liabilities	**—**	—
Total		**182**	80		**2**	9
Derivatives not designated as hedging instruments:						
Foreign currency derivatives	Other current assets	**8**	9	Other current liabilities	**8**	6
Equity derivatives	Other assets	**1**	—	Other long-term liabilities	**—**	—
Total		**9**	9		**8**	6
Total		**$ 191**	$ 89		**$ 10**	$ 15

The following amounts were recorded on the Consolidated Balance Sheets related to cumulative basis adjustments for our fair value hedges (in millions):

Balance Sheet Line Item of Hedged Item	CARRYING AMOUNT OF THE HEDGED ASSETS/(LIABILITIES) July 25, 2020	CARRYING AMOUNT OF THE HEDGED ASSETS/(LIABILITIES) July 27, 2019	CUMULATIVE AMOUNT OF FAIR VALUE HEDGING ADJUSTMENT INCLUDED IN THE CARRYING AMOUNT OF THE HEDGED ASSETS/LIABILITIES July 25, 2020	CUMULATIVE AMOUNT OF FAIR VALUE HEDGING ADJUSTMENT INCLUDED IN THE CARRYING AMOUNT OF THE HEDGED ASSETS/LIABILITIES July 27, 2019
Short-term debt	**$ (506)**	$ (2,000)	**$ (6)**	$ —
Long-term debt	**$ (2,159)**	$ (2,565)	**$ (165)**	$ (73)

See Note 17 for the effects of our cash flow hedging instruments on other comprehensive income (OCI) and the Consolidated Statements of Operations.

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

	July 25, 2020				July 27, 2019			
	Revenue	**Cost of sales**	**Operating expenses**	**Interest and other income (loss), net**	Revenue	Cost of sales	Operating expenses	Interest and other income (loss), net
Total amounts presented in the Consolidated Statements of Operations in which the effects of fair value or cash flow hedges are recorded	**$ 49,301**	**$ 17,618**	**$ 18,063**	**$ 350**	$ 51,904	$ 19,238	$ 18,447	$ 352
The effects of fair value and cash flow hedging:								
Gains (losses) on fair value hedging relationships:								
Interest rate derivatives								
Hedged items	—	—	—	**(98)**	—	—	—	(138)
Derivatives designated as hedging instruments	—	—	—	**101**	—	—	—	145
Gains (losses) on cash flow hedging relationships:								
Foreign currency derivatives								
Amount of gains (losses) reclassified from AOCI to income	**(1)**	—	—	—	2	—	1	—
Total gains (losses)	**$ (1)**	**$ —**	**$ —**	**$ 3**	$ 2	$ —	$ 1	$ 7

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 25, 2020	GAINS (LOSSES) FOR THE YEARS ENDED July 27, 2019	GAINS (LOSSES) FOR THE YEARS ENDED July 28, 2018
Foreign currency derivatives	Other income (loss), net	**$ (5)**	$ (60)	$ (24)
Total return swaps—deferred compensation	Operating expenses	**24**	19	50
	Cost of sales	**1**	2	4
	Other income (loss), net	**(10)**	(16)	(11)
Equity derivatives	Other income (loss), net	**9**	3	(4)
Total		**$ 19**	$ (52)	$ 15

The notional amounts of our outstanding derivatives are summarized as follows (in millions):

	July 25, 2020	July 27, 2019
Derivatives designated as hedging instruments:		
Foreign currency derivatives—cash flow hedges	$ 743	$ 663
Interest rate derivatives	2,500	4,500
Net investment hedging instruments	331	309
Derivatives not designated as hedging instruments:		
Foreign currency derivatives	3,241	2,708
Total return swaps—deferred compensation	580	574
Total	$ 7,395	$ 8,754

(b) Offsetting of Derivative Instruments

We present our derivative instruments at gross fair values in the Consolidated Balance Sheets. However, our 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. As of July 25, 2020 and July 27, 2019, the potential effects of these rights of set-off associated with the derivative contracts would be a reduction to both derivative assets and derivative liabilities of $10 million and $13 million, respectively.

To further limit credit risk, we also enter 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. Under these collateral security arrangements, the net cash collateral received as of July 25, 2020 and July 27, 2019 was $173 million and $76 million, respectively. Including the effects of collateral, this results in a net derivative asset of $8 million and $2 million as of July 25, 2020 and July 27, 2019, respectively.

(c) Foreign Currency Exchange Risk

We conduct business globally in numerous currencies. Therefore, we are exposed to adverse movements in foreign currency exchange rates. To limit the exposure related to foreign currency changes, we enter into foreign currency contracts. We do not enter into such contracts for speculative purposes.

We hedge forecasted foreign currency transactions related to certain revenues, 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 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. During the fiscal years presented, we did not discontinue any cash flow hedges for which it was probable that a forecasted transaction would not occur.

We enter 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.

We hedge certain net investments in our foreign operations with forward contracts to reduce the effects of foreign currency fluctuations on our net investment in those foreign subsidiaries. These derivative instruments generally have maturities of up to six months.

(d) Interest Rate Risk

Interest Rate Derivatives Designated as Fair Value Hedges, Long-Term Debt We hold interest rate swaps designated as fair value hedges related to fixed-rate senior notes that are due in fiscal 2021 through 2025. Under these interest rate swaps, we receive fixed-rate interest payments and make 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.

(e) Equity Price Risk

We may hold marketable equity securities in our portfolio that are subject to price risk. To diversify our overall portfolio, we also hold equity derivatives that are not designated as accounting hedges. The change in the fair value of each of these investment types are included in other income (loss), net.

We are also exposed to variability in compensation charges related to certain deferred compensation obligations to employees. Although not designated as accounting hedges, we utilize derivatives such as total return swaps to economically hedge this exposure and offset the related compensation expense.

14. Commitments and Contingencies

(a) 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. 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 either allow them to procure inventory based upon criteria as defined by us or establish the parameters defining our requirements. A significant portion of our reported purchase commitments arising from these agreements consists of firm, noncancelable, and unconditional commitments. Certain of these purchase commitments with contract manufacturers and suppliers relate to arrangements to secure long-term pricing for certain product components for multi-year periods. 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. As of July 25, 2020 and July 27, 2019, we had total purchase commitments for inventory of $4.4 billion and $5.0 billion, respectively.

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. As of July 25, 2020 and July 27, 2019, the liability for these purchase commitments was $141 million and $129 million, respectively, and was included in other current liabilities. The provision for the liability related to purchase commitments with contract manufacturers and suppliers was $139 million, $95 million, and $105 million in fiscal 2020, 2019, and 2018, respectively.

(b) Other Commitments

In connection with our acquisitions, we have 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 Cisco of certain employees of the acquired entities.

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

	July 25, 2020	July 27, 2019	July 28, 2018
Compensation expense related to acquisitions	**$ 214**	$ 313	$ 203

As of July 25, 2020, we estimated that future cash compensation expense of up to $271 million may be required to be recognized pursuant to the applicable business combination agreements.

We also have certain funding commitments, primarily related to our non-marketable equity and other investments, 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 $0.3 billion as of each of July 25, 2020 and July 27, 2019.

(c) Product Warranties

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

	July 25, 2020	July 27, 2019	July 28, 2018
Balance at beginning of fiscal year	**$ 342**	$ 359	$ 407
Provisions for warranties issued	**561**	600	582
Adjustments for pre-existing warranties	**(8)**	(12)	(38)
Settlements	**(564)**	(603)	(592)
Acquisitions and divestitures	**—**	(2)	—
Balance at end of fiscal year	**$ 331**	$ 342	$ 359

We accrue for warranty costs as part of our cost of sales based on associated material product costs, labor costs for technical support staff, and associated overhead. 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.

(d) Financing and Other Guarantees

In the ordinary course of business, we provide 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 We facilitate arrangements for third-party financing extended to channel partners, consisting of revolving short-term financing, with payment terms generally ranging from 60 to 90 days. During fiscal 2020, we expanded the payment terms on certain of our channel partner financing programs by 30 days in response to the COVID-19 pandemic environment. These financing arrangements facilitate the working capital requirements of the channel partners, and, in some cases, we guarantee a portion of these arrangements. The volume of channel partner financing was $26.9 billion, $29.6 billion, and $28.2 billion in fiscal 2020, 2019, and 2018, respectively. The balance of the channel partner financing subject to guarantees was $1.1 billion and $1.4 billion as of July 25, 2020 and July 27, 2019, respectively.

End-User Financing Guarantees We also provide 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 we had provided guarantees was $9 million, $14 million, and $35 million in fiscal 2020, 2019, and 2018, respectively.

Financing Guarantee Summary The aggregate amounts of financing guarantees outstanding at July 25, 2020 and July 27, 2019, 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 25, 2020	July 27, 2019
Maximum potential future payments relating to financing guarantees:		
Channel partner	**$ 198**	$ 197
End user	**9**	21
Total	**$ 207**	$ 218
Deferred revenue associated with financing guarantees:		
Channel partner	**$ (19)**	$ (62)
End user	**(9)**	(15)
Total	**$ (28)**	$ (77)
Total	**$ 179**	$ 141

(e) Indemnifications

In the normal course of business, we indemnify other parties, including customers, lessors, and parties to other transactions with us, with respect to certain matters. We have agreed to indemnify 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.

Charter Communications, Inc. (“Charter”), which acquired Time Warner Cable (“TWC”) in May 2016, is seeking indemnification from us for a final judgment obtained by Sprint Communications Company, L.P. (“Sprint”) against TWC in federal court in Kansas. Sprint sought monetary damages, alleging that TWC infringed certain Sprint patents by offering VoIP telephone services utilizing products provided by us generally in combination with those of other manufacturers. Following a trial on March 3, 2017, a jury in Kansas found that TWC willfully infringed five Sprint patents and awarded Sprint $139.8 million in damages. The Court awarded Sprint pre and post judgment interest of approximately $10 million and denied TWC’s post-trial motions and appeals. Charter reported that it paid the judgment in full. At this time, we are working with Charter to calculate the correct amount of indemnification. We do not believe that our indemnity obligations under our agreement will be material.

We also have been asked to indemnify certain of our service provider customers that have been subject to patent infringement claims asserted by Chanbond, LLC (“Chanbond”) in the United States District Court for the District of Delaware on September 21, 2015. Chanbond alleges that 13 service provider companies, including among others, Comcast Corporation, Charter Communications, Inc. (“Charter”), Time Warner Cable, Inc. (subsequently acquired by Charter), Cox Communications, Inc. (“Cox”), and Cablevision Systems Corporation, infringe three patents by providing high speed cable internet services to their customers utilizing cable modems and cable modem termination systems, consistent with the DOCSIS 3.0 standard, provided by us and other manufacturers generally used in combination with each other. Chanbond seeks monetary damages. On July 15, 2020, the Court vacated the August 19, 2020 trial date for Chanbond's case against Cox and has not yet set a new trial date. The other cases against the remaining service provider defendants also have not yet been set for trial. We believe that the service provider defendants have strong non-infringement, invalidity and other defenses. Due to uncertainties surrounding the litigation processes, we are unable to reasonably estimate the ultimate outcome of the cases at this time, but should Chanbond prevail in its cases against the service provider defendants, we do not believe that any potential indemnity liability would be material.

During fiscal 2018, we recorded legal and indemnification settlement charges of $127 million to product cost of sales related to prior indemnification matters resolved in fiscal 2018.

In addition, we have entered into indemnification agreements with our officers and directors, and our Amended and Restated Bylaws contain similar indemnification obligations to our agents.

It is not possible to determine the maximum potential amount under these indemnification agreements due to uncertainties in the litigation process, coordination with other suppliers and the defendants in these cases, and the unique facts and circumstances involved in each particular agreement. Historically, payments made by us under these agreements have not had a material effect on our operating results, financial position, or cash flows.

(f) Legal Proceedings

Brazil Brazilian authorities have investigated our Brazilian subsidiary and certain of its 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.

During the second quarter of fiscal 2020, $0.8 billion of penalty and interest asserted by the Brazilian federal tax authorities against our Brazilian subsidiary on the theory of joint liability was dismissed on its merits. 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 remaining asserted claims by Brazilian state and federal tax authorities aggregate to $155 million for the alleged evasion of import and other taxes, $756 million for interest, and $383 million for various penalties, all determined using an exchange rate as of July 25, 2020.

We have completed a thorough review of the matters and believe the remaining 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.

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 started on May 2, 2016, and, on May 12, 2016, the jury returned a verdict finding willful infringement. The jury awarded SRI damages of $23.7 million. On May 25, 2017, the District Court awarded SRI enhanced damages and attorneys' fees, entered judgment in the new amount of $57.0 million, and ordered an ongoing royalty of 3.5% through the expiration of the patents in 2018. We appealed to the United States Court of Appeals for the Federal Circuit on various grounds, and after various proceedings, on July 12, 2019, the Federal Circuit vacated the enhanced damages award; vacated and remanded in part the willful infringement finding; vacated and remanded the attorneys' fees award for further proceedings; and affirmed the District Court's other findings. On April 1, 2020, the District Court issued a final judgment on the remanded issues, finding no evidence of willful infringement and reinstating the $8 million award of attorneys' fees. SRI appealed the judgment of no willful infringement to the Federal Circuit on April 3, 2020, and Cisco filed a cross-appeal on the attorneys' fees award on April 9, 2020. Cisco has paid SRI $28.1 million, representing the portion of the judgment that the Federal Circuit previously affirmed, plus interest and royalties on post-verdict sales. While the remaining proceedings may result in an additional loss, we do not expect it to be material.

Centripetal On February 13, 2018, Centripetal Networks, Inc. ("Centripetal") asserted patent infringement claims against us in the U.S. District Court for the Eastern District of Virginia, alleging that several Cisco products and services (including Cisco's Catalyst switches, ASR and ISR series routers, ASAs with FirePOWER services, and Stealthwatch products) infringe eleven Centripetal patents. Cisco thereafter petitioned the Patent Trial and Appeal Board ("PTAB") of the United States Patent and Trademark Office to review the validity of nine of the asserted patents. The PTAB instituted *inter partes* review proceedings ("IPR Proceedings") on six asserted patents and certain claims of another asserted patent. The PTAB has issued Final Written Decisions for seven patents in the instituted IPR Proceedings, and all claims of five patents have been found unpatentable and several of the claims of the other two patents have been found unpatentable. Starting on May 6, 2020 and concluding on June 25, 2020, the District Court conducted a bench trial by videoconference on the claims in the five patents not subject to the IPR Proceedings, including claims in three for which the PTAB declined to institute IPR Proceedings. Centripetal seeks damages, enhanced damages for willful infringement, and broad injunctive relief. While the trial result is uncertain, we believe that a District Court finding of validity and infringement, finding of willfulness, award of damages including any enhancement, and/or entry of injunctive relief are not supported by either the law or the evidence presented at trial. We intend to appeal any adverse outcome to the United States Court of Appeals for the Federal Circuit, and we believe that any relief ultimately awarded would not be material. On April 29, 2020 and April 30, 2020, Centripetal submitted complaints in the District Court of Dusseldorf in Germany against Cisco Systems GmbH and Cisco Systems, Inc., asserting three European patents seeking both injunctive relief and damages. Two of the three European patents are counterparts to two U.S. patents Centripetal asserted against us in the U.S. District Court proceedings, one of which has been invalidated by the PTAB. We are currently assessing the cases filed in Germany. Due to uncertainty surrounding patent litigation processes in the U.S. and Europe, however, we are unable to reasonably estimate the ultimate outcome of the cases at this time.

Oyster Optics On November 24, 2016, Oyster Optics, LLC ("Oyster") asserted patent infringement claims against us in the U.S. District Court for the Eastern District of Texas. Oyster alleged that certain Cisco ONS 15454 and NCS 2000 line cards infringe U.S. Patent No. 7,620,327 ("the '327 Patent"). Oyster sought monetary damages. Oyster also had filed infringement claims based on the '327 Patent against other defendants, including ZTE, Nokia, NEC, Infinera, Huawei, Ciena, Alcatel-Lucent, and Fujitsu, and the District Court consolidated the cases alleging infringement of the '327 Patent. Oyster's cases against some of the defendants were resolved. The District Court vacated the November 4, 2018 trial date set for Oyster's claims against Cisco and one other remaining defendant, pending resolution of Oyster's December 6, 2018 appeal of the District Court's summary judgment ruling dismissing certain of Oyster's claims. On May 8, 2020, the Federal Circuit affirmed the District Court's summary judgment ruling. On June 18, 2020, Oyster dismissed its case against us based on the '327 Patent with prejudice.

Finjan On January 6, 2017, Finjan, Inc. ("Finjan") asserted patent infringement claims against us in the U.S. District Court for the Northern District of California, seeking injunctive relief and damages, including enhanced damages for allegations of willful infringement. Finjan alleges that Cisco's AMP and ThreatGrid products and the URL rewrite feature of Cisco's ESA Outbreak Filter product infringe five patents, four of which have expired. Finjan has conceded that they are not entitled to any pre-suit damages, accordingly it seeks approximately three weeks of damages for the alleged infringement of the 8,677,494 and 6,154,844 patents, approximately ten months of damages for the 6,804,780 patent, approximately three years of damages for the 7,647,633 patent, and approximately three-and-a-half years of past damages for the 8,141,154 patent and an ongoing royalty until its expiration on December 12, 2025. The case is currently set for jury trial starting October 19, 2020. While we believe that we have strong non-infringement arguments, that the patents are invalid, that Finjan's damages theories are not supported by prevailing law and that Finjan will not be able to meet its burden required for injunctive relief, we are unable to reasonably estimate the ultimate outcome of this litigation at this time due to uncertainties in the litigation processes. If we do not prevail in the District Court, we believe that any damages ultimately assessed would not be material.

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 I, Item 1A. Risk Factors-We may be found to infringe on intellectual property rights of others" of this Annual Report on Form 10-K.

15. Shareholders' Equity

(a) Cash Dividends on Shares of Common Stock

We declared and paid cash dividends of $1.42, $1.36 and $1.24 per common share, or $6.0 billion each year, on our outstanding common stock during fiscal 2020, 2019, and 2018, respectively.

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

(b) Stock Repurchase Program

In September 2001, our Board of Directors authorized a stock repurchase program. As of July 25, 2020, the remaining authorized amount for stock repurchases under this program, including the additional authorization, is approximately $10.8 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):

Years Ended	Shares	Weighted-Average Price per Share	Amount
July 25, 2020	**59**	**$ 44.36**	**$ 2,619**
July 27, 2019	418	$ 49.22	$ 20,577
July 28, 2018	432	$ 40.88	$ 17,661

There were no stock repurchases pending settlement as of July 25, 2020. There were $40 million and $180 million in stock repurchases that were pending settlement as of July 27, 2019 and July 28, 2018, respectively.

The purchase price for the shares of our stock repurchased is reflected as a reduction to shareholders' equity.

We are required to allocate the purchase price of the repurchased shares as (i) a reduction to retained earnings or an increase to accumulated deficit and (ii) a reduction of common stock and additional paid-in capital.

(c) Preferred Stock

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

16. Employee Benefit Plans

(a) Employee Stock Incentive Plans

Stock Incentive Plan Program Description As of July 25, 2020, we had one stock incentive plan: the 2005 Stock Incentive Plan (the "2005 Plan"). In addition, we have, in connection with our 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 us and provide incentives for them to remain with Cisco. The number and frequency of share-based awards are based on competitive practices, operating results of Cisco, government regulations, and other factors. Our primary stock incentive plan is summarized as follows:

2005 Plan The 2005 Plan provides for the granting of stock options, stock grants, stock units and stock appreciation rights (SARs), the vesting of which may be time-based or upon satisfaction of performance goals, or both, and/or other conditions. Employees (including employee directors and executive officers) and consultants of Cisco and its subsidiaries and affiliates and non-employee directors of Cisco are eligible to participate in the 2005 Plan. As of July 25, 2020, the maximum number of shares issuable under the 2005 Plan over its term was 694 million shares. The 2005 Plan may be terminated by the Board of Directors at any time and for any reason, and is currently set to terminate at the 2021 Annual Meeting unless re-adopted or extended by the shareholders prior to or on such date.

Under the 2005 Plan's share reserve feature, a distinction is made between the number of shares in the reserve attributable to (i) stock options and SARs and (ii) "full value" awards (i.e., stock grants and stock units). Shares issued as stock grants, pursuant to stock units or pursuant to the settlement of dividend equivalents are counted against shares available for issuance under the 2005 Plan on a 1.5-to-1 ratio. For each share awarded as restricted stock or a restricted stock unit award under the 2005 Plan, 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. If awards issued under the 2005 Plan are forfeited or terminated for any reason before being exercised or settled, then the shares underlying such awards, plus the number of additional shares, if any, that counted against shares available for issuance under the 2005 Plan at the time of grant as a result of the application of the share ratio described above, will become available again for issuance under the 2005 Plan. As of July 25, 2020, 183 million shares were authorized for future grant under the 2005 Plan.

(b) Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan under which 721.4 million shares of our common stock have been reserved for issuance as of July 25, 2020. 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 amount of shares of our stock at a discount of up to 15% of the lesser of the fair market value at the beginning of the offering period or the end of each 6-month purchase period. The Employee Stock Purchase Plan is scheduled to terminate on the earlier of (i) January 3, 2030 and (ii) the date on which all shares available for issuance under the Employee Stock Purchase Plan are sold pursuant to exercised purchase rights. We issued 18 million, 19 million, and 22 million shares under the Employee Stock Purchase Plan in fiscal 2020, 2019, and 2018, respectively. As of July 25, 2020, 141 million shares were available for issuance under the Employee Stock 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 RSUs granted to employees. The following table summarizes share-based compensation expense (in millions):

Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Cost of sales—product	**$ 93**	$ 90	$ 94
Cost of sales—service	**144**	130	133
Share-based compensation expense in cost of sales	**237**	220	227
Research and development	**592**	540	538
Sales and marketing	**500**	519	555
General and administrative	**215**	250	246
Restructuring and other charges	**25**	62	33
Share-based compensation expense in operating expenses	**1,332**	1,371	1,372
Total share-based compensation expense	**$ 1,569**	$ 1,591	$ 1,599
Income tax benefit for share-based compensation	**$ 452**	$ 542	$ 558

As of July 25, 2020, the total compensation cost related to unvested share-based awards not yet recognized was $3.9 billion, which is expected to be recognized over approximately 2.7 years on a weighted-average basis.

(d) 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 RSUs, 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 29, 2017	141	$ 26.94	
Granted	46	35.62	
Assumed from acquisitions	1	28.26	
Vested	(53)	26.02	$ 1,909
Canceled/forfeited/other	(16)	28.37	
UNVESTED BALANCE AT JULY 28, 2018	119	30.56	
Granted	45	47.71	
Vested	(50)	29.25	$ 2,446
Canceled/forfeited/other	(14)	32.01	
UNVESTED BALANCE AT JULY 27, 2019	**100**	**38.66**	
Granted	**49**	**42.61**	
Vested	**(44)**	**35.20**	**$ 2,045**
Canceled/forfeited/other	**(9)**	**40.45**	
UNVESTED BALANCE AT JULY 25, 2020	**96**	**$ 42.03**	

(e) Valuation of Employee Share-Based Awards

Time-based restricted stock units and PRSUs that are based on our financial performance metrics or non-financial operating goals are valued using the market value of our common stock on the date of grant, discounted for the present value of expected dividends. On the date of grant, we 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:

	RESTRICTED STOCK UNITS		
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Number of shares granted (in millions)	**47**	43	43
Grant date fair value per share	**$ 42.68**	$ 47.75	$ 35.81
Weighted-average assumptions/inputs:			
Expected dividend yield	**3.1%**	2.7%	3.2%
Range of risk-free interest rates	**0.0% – 2.0%**	0.0% – 2.9%	0.0% – 2.7%

	PERFORMANCE BASED RESTRICTED STOCK UNITS		
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Number of shares granted (in millions)	**2**	2	3
Grant date fair value per share	**$ 41.91**	$ 47.00	$ 32.69
Weighted-average assumptions/inputs:			
Expected dividend yield	**2.8%**	2.8%	3.5%
Range of risk-free interest rates	**1.7% – 2.0%**	2.1% – 3.0%	1.0% – 2.7%
Range of expected volatilities for index	**13.7% - 69.0%**	13.0% - 65.2%	12.5% – 82.8%

The PRSUs granted during the fiscal years presented are contingent on the achievement of our financial performance metrics, our 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 our 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 our financial performance metrics or our comparative market-based returns, and 0% to 100% of the target shares granted contingent on the achievement of non-financial operating goals.

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

	EMPLOYEE STOCK PURCHASE RIGHTS		
Years Ended	**July 25, 2020**	July 27, 2019	July 28, 2018
Weighted-average assumptions:			
Expected volatility	**22.2%**	20.4%	22.1%
Risk-free interest rate	**1.8%**	1.9%	1.3%
Expected dividend	**3.0%**	3.0%	3.1%
Expected life (in years)	**1.3**	1.3	1.3
Weighted-average estimated grant date fair value per share	**$ 10.20**	$ 9.06	$ 7.48

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

We used third-party analyses to assist in developing the assumptions used in our Black-Scholes model. We are responsible for determining the assumptions used in estimating the fair value of our share-based payment awards.

We used the implied volatility for traded options (with contract terms corresponding to the expected life of the employee stock purchase rights) on our 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 our employee stock purchase rights. The dividend yield assumption is based on the history and expectation of dividend payouts at the grant date.

(f) Employee 401(k) Plans

We sponsor the Cisco Systems, Inc. 401(k) Plan (the "Plan") to provide retirement benefits for our 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. We match 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 we may allocate to each participant's account will not exceed $12,825 for the 2020 calendar year due to the $285,000 annual limit on eligible earnings imposed by the Internal Revenue Code. All matching contributions vest immediately. Our matching contributions to the Plan totaled $295 million, $283 million, and $269 million in fiscal 2020, 2019, and 2018, 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 2020, 2019, and 2018.

We also sponsor other 401(k) plans as a result of acquisitions of other companies. Our contributions to these plans were not material to Cisco on either an individual or aggregate basis for any of the fiscal years presented.

(g) 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 our 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 Cisco, up to the maximum percentages for each deferral election as described in the plan. We may also, at our 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 2020 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 2020. The total deferred compensation liability under the Deferred Compensation Plan, together with deferred compensation plans assumed from acquired companies, was approximately $704 million and $678 million as of July 25, 2020 and July 27, 2019, respectively, and was recorded primarily in other long-term liabilities.

17. Comprehensive Income (Loss)

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 (Losses) on Available-for-Sale Investments	Net Unrealized Gains (Losses) Cash Flow Hedging Instruments	Cumulative Translation Adjustment and Actuarial Gains and Losses	Accumulated Other Comprehensive Income (Loss)
BALANCE AT JULY 29, 2017	$ 373	$ 32	$ (359)	$ 46
Other comprehensive income (loss) before reclassifications	(543)	21	(159)	(681)
(Gains) losses reclassified out of AOCI	(287)	(68)	7	(348)
Tax benefit (expense)	93	4	(8)	89
Total change for the period	(737)	(43)	(160)	(940)
Effect of adoption of accounting standard	54	—	(9)	45
BALANCE AT JULY 28, 2018	(310)	(11)	(528)	(849)
Other comprehensive income (loss) before reclassifications	560	—	(267)	293
(Gains) losses reclassified out of AOCI	13	(3)	2	12
Tax benefit (expense)	(95)	—	15	(80)
Total change for the period	478	(3)	(250)	225
Effect of adoption of accounting standard	(168)	—	—	(168)
BALANCE AT JULY 27, 2019	**—**	**(14)**	**(778)**	**(792)**
Other comprehensive income (loss) before reclassifications	**420**	**7**	**(51)**	**376**
(Gains) losses reclassified out of AOCI	**(42)**	**1**	**6**	**(35)**
Tax benefit (expense)	**(63)**	**—**	**(5)**	**(68)**
BALANCE AT JULY 25, 2020	**$ 315**	**$ (6)**	**$ (828)**	**$ (519)**

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 25, 2020	July 27, 2019	July 28, 2018	
Comprehensive Income Components	Income Before Taxes			Line Item in Statements of Operations
Net unrealized gains and losses on available-for-sale investments	**$ 42**	$ (13)	$ 287	Other income (loss), net
Net unrealized gains and losses on cash flow hedging instruments				
Foreign currency derivatives	**(1)**	2	—	Revenue
Foreign currency derivatives	**—**	—	16	Cost of sales
Foreign currency derivatives	**—**	1	52	Operating expenses
	(1)	3	68	
Cumulative translation adjustment and actuarial gains and losses	**—**	—	(7)	Operating expenses
Cumulative translation adjustment and actuarial gains and losses	**(6)**	(2)	—	Other income (loss), net
Total amounts reclassified out of AOCI	**$ 35**	$ (12)	$ 348	

18. Income Taxes

(a) Provision for Income Taxes

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

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Federal:			
Current	$ 1,101	$ 1,760	$ 9,900
Deferred	(374)	(84)	1,156
	727	1,676	11,056
State:			
Current	264	302	340
Deferred	287	(2)	(232)
	551	300	108
Foreign:			
Current	1,429	1,238	1,789
Deferred	49	(264)	(24)
	1,478	974	1,765
Total	$ 2,756	$ 2,950	$ 12,929

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

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
United States	$ 7,534	$ 7,611	$ 3,765
International	6,436	6,960	9,274
Total	$ 13,970	$ 14,571	$ 13,039

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 25, 2020	July 27, 2019	July 28, 2018
Federal statutory rate	21.0 %	21.0 %	27.0 %
Effect of:			
State taxes, net of federal tax benefit	3.5	2.0	0.6
Foreign income at other than U.S. rates	(1.5)	(4.5)	(5.2)
Tax credits	(0.9)	(1.7)	(2.5)
Foreign-derived intangible income deduction	(2.6)	(1.3)	—
Domestic manufacturing deduction	—	—	(0.5)
Stock-based compensation	(0.1)	(0.6)	(0.1)
Impact of the Tax Act	—	6.1	80.1
Other, net	0.3	(0.8)	(0.2)
Total	19.7 %	20.2 %	99.2 %

During fiscal 2018 and 2019, we recorded a total tax charge as a result of the Tax Act of $11.3 billion, consisting of $9.0 billion of tax expense for the U.S. transition tax on accumulated earnings of foreign subsidiaries, $1.2 billion of foreign withholding tax and $1.1 billion of tax expense for DTA re-measurement.

During fiscal 2020, the Internal Revenue Service (IRS) and Cisco settled all outstanding items related to the audit of our federal income tax returns for the fiscal year ended July 30, 2011 through July 27, 2013. As a result of the settlement, we recognized a net benefit to the provision for income taxes of $102 million, which included a reduction in interest expense of $4 million. We are no longer subject to U.S. federal tax audit through fiscal 2013.

Foreign taxes associated with the repatriation of earnings of foreign subsidiaries were not provided on a cumulative total of $6.8 billion of undistributed earnings for certain foreign subsidiaries as of the end of fiscal 2020. We intend to reinvest these earnings indefinitely in such foreign subsidiaries. If these earnings were distributed in the form of dividends or otherwise, or if the shares of the relevant foreign subsidiaries were sold or otherwise transferred, we could be subject to additional foreign taxes. The amount of potential unrecognized deferred income tax liability related to these earnings is approximately $706 million.

As a result of certain employment and capital investment actions, our income in certain foreign countries was subject to reduced tax rates. The tax incentives expired at the end of fiscal 2019. As of the end of fiscal 2019 and 2018, the gross income tax benefits attributable to tax incentives were estimated to be $0.3 billion and $0.9 billion ($0.08 and $0.19 per diluted share) for the respective years. The gross income tax benefits were partially offset by accruals of U.S. income taxes on foreign earnings.

Unrecognized Tax Benefits

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

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Beginning balance	**$ 1,925**	$ 2,000	$ 1,973
Additions based on tax positions related to the current year	**188**	185	251
Additions for tax positions of prior years	**554**	84	84
Reductions for tax positions of prior years	**(136)**	(283)	(129)
Settlements	**(4)**	(38)	(124)
Lapse of statute of limitations	**(9)**	(23)	(55)
Ending balance	**$ 2,518**	$ 1,925	$ 2,000

As of July 25, 2020, $2.2 billion of the unrecognized tax benefits would affect the effective tax rate if realized. During fiscal 2020, we recognized $104 million of net interest expense and increased our unrecognized tax benefits for prior year tax positions by $554 million to reflect expected settlement positions in on-going U.S. federal, state, and foreign income tax return examinations. We recognized net interest expense of $30 million and $10 million, respectively, during fiscal 2019 and 2018. Our net penalty expense for fiscal 2020, 2019 and 2018 was not material. Our total accrual for interest and penalties was $340 million, $220 million, and $180 million as of the end of fiscal 2020, 2019, and 2018, respectively. We are no longer subject to U.S. federal income tax audit for returns covering tax years through fiscal 2013. We are no longer subject to foreign or state income tax audits for returns covering tax years through fiscal 1999 and fiscal 2008, respectively.

We regularly engage in discussions and negotiations with tax authorities regarding tax matters in various jurisdictions. We believe 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. We estimate that the unrecognized tax benefits at July 25, 2020 could be reduced by $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 25, 2020	July 27, 2019
Deferred tax assets	**$ 3,990**	$ 4,065
Deferred tax liabilities	**(81)**	(95)
Total net deferred tax assets	**$ 3,909**	$ 3,970

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

	July 25, 2020	July 27, 2019
ASSETS		
Allowance for doubtful accounts and returns	**$ 110**	$ 127
Sales-type and direct-financing leases	**179**	176
Inventory write-downs and capitalization	**350**	409
Deferred foreign income	**253**	—
IPR&D, goodwill, and purchased intangible assets	**1,289**	1,427
Deferred revenue	**1,182**	1,150
Credits and net operating loss carryforwards	**1,105**	1,241
Share-based compensation expense	**135**	164
Accrued compensation	**353**	342
Lease liabilities	**240**	—
Other	**571**	419
Gross deferred tax assets	**5,767**	5,455
Valuation allowance	**(700)**	(457)
Total deferred tax assets	**5,067**	4,998
LIABILITIES		
Purchased intangible assets	**(577)**	(705)
Depreciation	**(179)**	(141)
Unrealized gains on investments	**(119)**	(70)
ROU lease assets	**(222)**	—
Other	**(61)**	(112)
Total deferred tax liabilities	**(1,158)**	(1,028)
Total net deferred tax assets	**$ 3,909**	$ 3,970

As of July 25, 2020, our federal, state, and foreign net operating loss carryforwards for income tax purposes were $405 million, $1.2 billion, and $644 million, respectively. A significant amount of the 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 carryforwards will begin to expire in fiscal 2022, and the state and foreign net operating loss carryforwards will begin to expire in fiscal 2021. We have provided a valuation allowance of $98 million for deferred tax assets related to foreign net operating losses that are not expected to be realized.

As of July 25, 2020, our federal, state, and foreign tax credit carryforwards for income tax purposes were approximately $10 million, $1.2 billion, and $5 million, respectively. The federal tax credit carryforwards will begin to expire in fiscal 2021. The majority of state and foreign tax credits can be carried forward indefinitely. We have provided a valuation allowance of $541 million for deferred tax assets related to state and foreign tax credits that are not expected to be realized.

19. Segment Information and Major Customers

(a) Revenue and Gross Margin by Segment

We conduct business globally and are primarily managed on a geographic basis consisting of three segments: the Americas, EMEA, and APJC. Our management makes financial decisions and allocates resources based on the information it receives from our internal management system. Sales are attributed to a segment based on the ordering location of the customer. We do not allocate research and development, sales and marketing, or general and administrative expenses to our segments in this internal management system because management does not include the information in our measurement of the performance of the operating segments. In addition, we do not allocate amortization and impairment of acquisition-related intangible assets, share-based compensation expense, significant litigation settlements and other contingencies, 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 our measurement of the performance of the operating segments.

Summarized financial information by segment for fiscal 2020, 2019, and 2018, based on our internal management system and as utilized by our Chief Operating Decision Maker (CODM), is as follows (in millions):

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Revenue:			
Americas	$ 29,291	$ 30,927	$ 29,070
EMEA	12,659	13,100	12,425
APJC	7,352	7,877	7,834
Total	$ 49,301	$ 51,904	$ 49,330
Gross margin:			
Americas	$ 19,547	$ 20,338	$ 18,792
EMEA	8,304	8,457	7,945
APJC	4,688	4,683	4,726
Segment total	32,538	33,479	31,463
Unallocated corporate items	(855)	(813)	(857)
Total	$ 31,683	$ 32,666	$ 30,606

Amounts may not sum due to rounding.

Revenue in the United States was $26.1 billion, $27.4 billion, and $25.5 billion for fiscal 2020, 2019, and 2018, respectively.

(b) Revenue for Groups of Similar Products and Services

We design, manufacture, and sell IP-based networking and other products related to the communications and IT industry and provide services associated with these products and their use.

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

Years Ended	July 25, 2020	July 27, 2019	July 28, 2018
Revenue:			
Infrastructure Platforms	$ 27,122	$ 30,099	$ 28,286
Applications	5,568	5,803	5,036
Security	3,154	2,821	2,388
Other Products	135	281	999
Total Product	35,978	39,005	36,709
Services	13,323	12,899	12,621
Total [1]	$ 49,301	$ 51,904	$ 49,330

[1] Includes SPVSS business revenue of $168 million and $903 million for fiscal 2019 and 2018, respectively.

Amounts may not sum due to rounding. We have 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 our assets as of July 25, 2020 and July 27, 2019 were attributable to our U.S. operations. In fiscal 2020, 2019, and 2018, no single customer accounted for 10% or more of revenue.

Our long-lived assets are based on the physical location of the assets. The following table presents our long-lived assets, which consists of property and equipment, net and operating lease right-of-use assets information for geographic areas (in millions):

	July 25, 2020	July 27, 2019	July 28, 2018
Long-lived assets:			
United States	$ 2,328	$ 2,266	$ 2,487
International	1,046	523	519
Total	$ 3,374	$ 2,789	$ 3,006

20. 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 25, 2020**	July 27, 2019	July 28, 2018
Net income	**$ 11,214**	$ 11,621	$ 110
Weighted-average shares—basic	**4,236**	4,419	4,837
Effect of dilutive potential common shares	**18**	34	44
Weighted-average shares—diluted	**4,254**	4,453	4,881
Net income per share—basic	**$ 2.65**	$ 2.63	$ 0.02
Net income per share—diluted	**$ 2.64**	$ 2.61	$ 0.02
Antidilutive employee share-based awards, excluded	**76**	55	61

Employee equity share options, unvested shares, and similar equity instruments granted and assumed by Cisco 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 and the amount of compensation cost for future service that has not yet been recognized are collectively assumed to be used to repurchase shares.

Supplementary Financial Data (Unaudited)
(in millions, except per-share amounts)

Quarters Ended	**July 25, 2020**	**April 25, 2020**	**January 25, 2020**	**October 26, 2019**
Revenue	**$ 12,154**	**$ 11,983**	**$ 12,005**	**$ 13,159**
Gross margin	**$ 7,684**	**$ 7,771**	**$ 7,764**	**$ 8,464**
Operating income	**$ 3,247**	**$ 3,414**	**$ 3,380**	**$ 3,579**
Net income	**$ 2,636**	**$ 2,774**	**$ 2,878**	**$ 2,926**
Net income per share - basic	**$ 0.62**	**$ 0.66**	**$ 0.68**	**$ 0.69**
Net income per share - diluted	**$ 0.62**	**$ 0.65**	**$ 0.68**	**$ 0.68**
Cash dividends declared per common share	**$ 0.36**	**$ 0.36**	**$ 0.35**	**$ 0.35**
Cash and cash equivalents and investments	**$ 29,419**	**$ 28,574**	**$ 27,062**	**$ 28,035**

Quarters Ended	July 27, 2019 [1]	April 27, 2019	January 26, 2019	October 27, 2018
Revenue	$ 13,428	$ 12,958	$ 12,446	$ 13,072
Gross margin	$ 8,574	$ 8,173	$ 7,773	$ 8,146
Operating income	$ 3,690	$ 3,513	$ 3,211	$ 3,805
Net income	$ 2,206	$ 3,044	$ 2,822	$ 3,549
Net income per share - basic	$ 0.52	$ 0.70	$ 0.63	$ 0.78
Net income per share - diluted	$ 0.51	$ 0.69	$ 0.63	$ 0.77
Cash dividends declared per common share	$ 0.35	$ 0.35	$ 0.33	$ 0.33
Cash and cash equivalents and investments	$ 33,413	$ 34,643	$ 40,383	$ 42,593

(1) In the fourth quarter of fiscal 2019, we recorded an $872 million charge which was the reversal of the previously recorded benefit associated with the U.S. taxation of deemed foreign dividends recorded in fiscal 2018 as a result of a retroactive final U.S. Treasury regulation issued during the quarter.

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 58 under the caption "Management's Report on Internal Control Over Financial Reporting" and on page 56 of this report.

There was no change in our internal control over financial reporting during our fourth quarter of fiscal 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

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” in our Proxy Statement related to the 2020 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 “Board Meetings and Committees” in our Proxy Statement related to the 2020 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 “Information about our Executive Officers” in Part I of this report.

With regard to the information required by this item regarding compliance with Section 16(a) of the Exchange Act, we will provide disclosure of delinquent Section 16(a) reports, if any, in our Proxy Statement related to the 2020 Annual Meeting of Shareholders, and such disclosure, if any, 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 “Financial Officer Code of Ethics: Additional Ethics Obligations for All Finance Employees” and can be found at the “Financial Officer Code of Ethics” link in the Corporate Governance section of Cisco’s Investor Relations website at investor.cisco.com.

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 investor relations website

Item 11. Executive Compensation

The information required by this item relating to executive compensation is included under the captions “Director Compensation,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Compensation Committee Interlocks and Insider Participation,” “Summary Compensation Table,” “Grants of Plan-Based Awards—Fiscal 2020,” “Outstanding Equity Awards at 2020 Fiscal Year End,” “Option Exercises and Stock Vested — Fiscal 2020,” “Nonqualified Deferred Compensation — Fiscal 2020,” “Potential Payments upon Termination or Change in Control,” “Potential Payments — Accelerated Equity Awards,” and “CEO Pay Ratio” in our Proxy Statement related to the 2020 Annual Meeting of Shareholders and 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 “Proposal No. 3 — Approval of the Amendment and Restatement of the 2005 Stock Incentive Plan,” in each case in our Proxy Statement related to the 2020 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 “Independent Directors,” in each case in our Proxy Statement related to the 2020 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. 5 — Ratification of Independent Registered Public Accounting Firm" in our Proxy Statement related to the 2020 Annual Meeting of Shareholders, and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Financial Statements
See the "Index to Consolidated Financial Statements" on page 55 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" beginning on page 107 of this report.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS
(in millions)

	July 25, 2020	July 27, 2019	July 28, 2018
Allowance for Doubtful Accounts:			
Balance at beginning of fiscal year	**$ 136**	$ 129	$ 211
Provisions (benefits)	**55**	56	(45)
Recoveries (write-offs), net	**(48)**	(50)	(37)
Foreign exchange and other	**—**	1	—
Balance at end of fiscal year	**$ 143**	$ 136	$ 129
Allowance for Financing Receivables:			
Balance at beginning of fiscal year	**$ 126**	$ 205	$ 295
Provisions (benefits)	**38**	(16)	(89)
Recoveries (write-offs), net	**(22)**	(42)	(6)
Foreign exchange and other	**(4)**	(21)	5
Balance at end of fiscal year	**$ 138**	$ 126	$ 205
Deferred Tax Asset Valuation Allowance:			
Balance at beginning of fiscal year	**$ 457**	$ 374	$ 244
Additions	**279**	112	163
Deductions	**(29)**	(20)	(7)
Write-offs	**(7)**	(8)	(26)
Foreign exchange and other	**—**	(1)	—
Balance at end of fiscal year	**$ 700**	$ 457	$ 374

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 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	
4.4	Forms of Global Note for the registrant’s 5.90% Senior Notes due 2039	8-K	000-18225	4.1	2/17/2009	
4.5	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	
4.6	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	
4.7	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	
4.8	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	
4.9	Form of Officer’s Certificate setting forth the terms of the Fixed and Floating Notes issued in September 2016	8-K	000-18225	4.1	9/20/2016	
4.10	Description of Registrant's Securities					X
10.1*	Cisco Systems, Inc. 2005 Stock Incentive Plan (including related form agreements)					X
10.2*	Cisco Systems, Inc. Employee Stock Purchase Plan	8-K	000-18225	10.1	12/13/2018	
10.3*	Cisco Systems, Inc. Deferred Compensation Plan, as amended	10-Q	000-18225	10.2	2/19/2019	
10.4*	Cisco Systems, Inc. Executive Incentive Plan	8-K	000-18225	10.2	12/12/2017	
10.5*	Form of Executive Officer Indemnification Agreement	10-K	000-18225	10.7	9/20/2004	
10.6*	Form of Director Indemnification Agreement	10-K	000-18225	10.8	9/20/2004	
10.7	Credit Agreement dated as of May 15, 2020, 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	5/18/2020	
10.8	Form of Commercial Paper Dealer Agreement	10-Q	000-18225	10.1	2/23/2011	
10.9	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 109 of this Annual Report on Form 10-K)					X

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
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	Inline XBRL Instance Document					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X
104	Cover Page Interactive Data File (Embedded within the Inline XBRL document and included in Exhibit 101)					X

* Indicates a management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

September 3, 2020	CISCO SYSTEMS, INC.
	/S/ CHARLES H. ROBBINS
	Charles H. Robbins
	Chairman and 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**	Chairman and Chief Executive Officer (Principal Executive Officer)	September 3, 2020
/S/ KELLY A. KRAMER **Kelly A. Kramer**	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	September 3, 2020
/S/ PRAT S. BHATT **Prat S. Bhatt**	Senior Vice President, Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)	September 3, 2020

Signature	Title	Date
/S/ M. MICHELE BURNS **M. Michele Burns**	Director	September 3, 2020
/S/ WESLEY G. BUSH **Wesley G. Bush**	Director	September 3, 2020
/S/ MICHAEL D. CAPELLAS **Michael D. Capellas**	Lead Independent Director	September 3, 2020
/S/ MARK GARRETT **Mark Garrett**	Director	September 3, 2020
Dr. Kristina M. Johnson	Director	
/S/ RODERICK C. MCGEARY **Roderick C. McGeary**	Director	September 3, 2020
/S/ ARUN SARIN **Arun Sarin**	Director	September 3, 2020
/S/ BRENTON L. SAUNDERS **Brenton L. Saunders**	Director	September 3, 2020
/S/ LISA T. SU **Dr. Lisa T. Su**	Director	September 3, 2020