CA, INC.

FORM 10-K
(Annual Report)

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

FORM 10-K

(Mark One)

✓ **Annual Report Pursuant To Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the fiscal year ended March 31, 2017

OR

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission file number 1-9247

CA, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**13-2857434**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)
520 Madison Avenue, New York, New York	**10022**
(Address of Principal Executive Offices)	(Zip Code)

1-800-225-5224
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

(Title of each class)	(Name of each exchange on which registered)
Common Stock, par value $0.10 per share	**The NASDAQ Stock Market LLC**
Stock Purchase Rights Preferred Stock, Class A	**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 Exchange Act. Yes ____ No ✓

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ✓ No ____

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

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

Large accelerated filer ✓ Accelerated filer ____ Non-accelerated filer ____ Smaller reporting company ____

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

The aggregate market value of the common stock held by non-affiliates of the registrant as of September 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately $10.2 billion based on the closing price of $33.08 on the NASDAQ Stock Market LLC on that date.

The number of shares of each of the registrant's classes of common stock outstanding at May 5, 2017 was 417,813,446 shares of common stock, par value $0.10 per share.

Documents Incorporated by Reference:

Part III: Portions of the Proxy Statement to be issued in conjunction with the registrant's 2017 Annual Meeting of Stockholders.

CA, Inc.

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This Annual Report on Form 10-K (Form 10-K) contains certain forward-looking information relating to CA, Inc. (which we refer to as the "Company," "Registrant," "CA Technologies," "CA," "we," "our," or "us") that is based on the beliefs of, and assumptions made by, our management as well as information currently available to management. When used in this Form 10-K, the words "believes," "plans," "anticipates," "expects," "estimates," "targets," and similar expressions relating to the future are intended to identify forward-looking information. Forward-looking information includes, for example, not only the statements relating to the future made under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations" under Item 7, but also statements relating to the future that appear in other parts of this Form 10-K. This forward-looking information reflects our current views with respect to future events and is subject to certain risks, uncertainties, and assumptions, some of which are described under the caption "Risk Factors" in Part I, Item 1A and elsewhere in this Form 10-K. Should one or more of these risks or uncertainties occur, or should our assumptions prove incorrect, actual results may vary materially from the forward-looking information described in this Form 10-K as believed, planned, anticipated, expected, estimated, targeted or similarly identified. We do not intend to update these forward-looking statements.

The declaration and payment of future dividends by the Company is subject to the determination of the Company's Board of Directors (the Board), in its sole discretion, after considering various factors, including the Company's financial condition, historical and forecast operating results, and available cash flow, as well as any applicable laws and contractual covenants and any other relevant factors. The Company's practice regarding payment of dividends may be modified at any time and from time to time.

Repurchases under the Company's stock repurchase program may be made from time to time, subject to market conditions and other factors, in the open market, through solicited or unsolicited privately negotiated transactions or otherwise. The program does not obligate the Company to acquire any particular amount of common stock, and it may be modified or suspended at any time at the Company's discretion.

The product and service names mentioned in this Form 10-K are used for identification purposes only and may be protected by trademarks, trade names, service marks and/or other intellectual property rights of the Company and/or other parties in the United States and/or other jurisdictions. The absence of a specific attribution in connection with any such mark does not constitute a waiver of any such right. All other trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

References in this Form 10-K to fiscal 2017 , fiscal 2016 , fiscal 2015 and fiscal 2014 , etc. are to our fiscal years ended on March 31, 2017 , 2016 , 2015 and 2014 , etc., respectively.

Part I

Item 1. Business.

Overview

CA Technologies is a global leader in software solutions enabling customers to plan, develop, manage and secure applications and enterprise environments across distributed, cloud, mobile and mainframe platforms. Most of the Global Fortune 500, as well as many government agencies around the world, rely on CA to help manage their increasingly dynamic and complex environments.

In every industry, we see customers transforming their businesses to better manage the market demands for speed, exceptional customer experience and rich analytics. Their journey, which is broadly referred to as digital transformation, is fueled by software. The proliferation of mobile devices and the expectation of seamless connectivity has driven users to demand highly secure, frictionless user experiences via software applications (often referred to as "applications" or "apps"). We refer to this market shift as the "Application Economy" and it is profoundly changing the way businesses provide services to customers and build software. Around the world, these trends are placing software at the heart of every business, driving companies in every industry vertical to invest in the creation of in-house software development teams to build out new business models, enhance their digital presence and support their on-going relationships with customers.

We address this opportunity with three distinct but highly complementary operating segments: Enterprise Solutions, Mainframe Solutions and Services. These also represent the operating segments used by our Chief Executive Officer for evaluating our performance and allocating resources. Refer to Note 17, "Segment and Geographic Information," in the Notes to the Consolidated Financial Statements for financial data pertaining to our segment and geographic operations.

Our *Enterprise Solutions* segment includes products that are designed for distributed and cloud computing environments and run on industry standard servers. Within Enterprise Solutions, our areas of focus include:

- *Agile Management* enables customers to plan, deliver and manage information technology (IT) and business services for their customers. Our solutions and Agile services enable customers to improve delivery time on projects, reduce costs and optimize resources. This positions CA to partner with and guide customers early in the business transformation process.
    - *CA Agile Central.* Our solutions help customers with their transition from traditional software delivery methodologies to the Agile methodology (iterative work cadences that decrease time-to-market and increase product quality). It allows businesses to collaboratively plan, prioritize and track software development work at scale, across the enterprise.
    - *CA Project & Portfolio Management (PPM).* Our solutions enable customers to improve their decision processes and resource optimizations of technology and business investments and decrease project execution risk. This foundational piece of our Agile Management strategy is complementary to CA Agile Central.
    - *CA Service Management.* Our solutions empower corporate IT teams to speed up and streamline service desk operations while reducing complex and repetitive tasks of service management processes through comprehensive automation capabilities and simple configuration.
- *DevOps* is adjacent to Agile Management and comprises a range of solutions that allow customers to efficiently deliver and manage applications and IT infrastructure. With our portfolio of solutions, customers can reduce the delivery time of new applications, increase the frequency of new releases and dramatically improve quality.
    - *Application Programming Interface Management (API Management).* Application programming interfaces (APIs) are the building blocks of modern application and software development. Our solutions facilitate the creation, security and management of APIs throughout their entire lifecycle, enabling customers to connect more directly with end-users via mobile apps, cloud platforms and 'Internet of Things' (IoT) devices. We provide solutions for each phase of the API lifecycle: *CA Live API Creator* automates the creation of APIs from existing data; *CA API Gateway* allows enterprises to securely orchestrate and expose APIs; *CA API Developer Portal* enables developers to easily discover and consume APIs; and *CA Mobile App Services* accelerate mobile and IoT development by providing reusable APIs and services for common use cases. Finally, our *API Academy* offers thought leadership and API strategy to customers undergoing digital transformation initiatives.

  - *Continuous Delivery.* Our solutions optimize application development processes by automating the deployment of applications across all stages of their lifecycles. Our primary solutions are: *CA Service Virtualization* , which eliminates constraints in development and testing by modeling and simulating the behavior and performance characteristics of dependent systems and services, enabling defects to be identified quickly and improving time-to-market; *CA Release Automation* , which automates and orchestrates the complex process of deploying and promoting new application capabilities from planning through development and production; *CA Test Data Manager* , which automates the creation and management of the test data needed to test evolving applications; and *CA BlazeMeter* , which enables development teams to improve the quality of Web and mobile applications by testing earlier and more often using open-source functional and performance testing tools throughout the development lifecycle.
  - *Application Performance Management (APM).* Application availability for the end user is dependent on a series of disparate systems performing in concert. Our APM solutions provide deep application diagnostics, end user experience monitoring, synthetic monitoring and analytics to proactively identify and fix issues before users are impacted. Our APM solutions scale and manage billions of transactions, across diverse enterprise applications and platforms, including Amazon Web Services SM (AWS).
  - *Infrastructure Management.* Our solutions offer a unified approach to monitoring and managing network, server and storage performance, whether they are contained within traditional data centers or diverse cloud environments. Our solutions provide operations teams in some of the largest IT organizations in the world with rapid access to the information needed to improve service quality, predictability and efficiency. *CA Unified Infrastructure Management (UIM)* enables monitoring and management of server, storage and network devices, including those in public cloud environments such as AWS ® and Microsoft AZURE ® .

- *Security* includes a comprehensive set of solutions that address the global imperative to minimize the risk of data breaches and alleviate the pressures faced by Chief Information Security Officers (CISOs) as a result of increasing information security regulations. Our solutions facilitate digital transformation by providing secure customer experiences, enabling a collaborative enterprise, empowering a digital workforce and securing the IoT. CA's Security suite simplifies the complexity of managing the trusted digital relationships among people, devices, and applications both on-premise and in the cloud.
  - *Privileged Access Management (PAM).* Privileged users, or users who have elevated access or administrator rights, are commonly the targets of data breach attempts. Our solutions enable customers to control and monitor privileged user access and activity, detecting and preventing the threat of internal and external attacks.
  - *Identity Management.* We offer a unified solution with user provisioning, user management and governance for identities throughout their lifecycle, providing timely and compliant access to applications and data.
  - *Advanced Authentication.* We offer risk-based and credential-based authentication enabling customers to comply with regulatory mandates in authenticating employees, partners and consumers with a frictionless user experience.
  - *Identity Service (IDS).* We provide a software as a service (SaaS)-based identity management solution to enable access to applications across a hybrid enterprise, using both SaaS and on-premise applications.
  - *Single Sign-On (SSO).* Our solutions provide secure single sign-on and flexible access management to web applications on-premise or in the cloud.
  - *Payment Security.* We offer a SaaS-based payment card enrollment and authentication service to help banks protect against fraud and ensure a hassle-free online shopping experience for their customers.

Our *Mainframe Solutions* are designed for the IBM z Systems™ platform, which runs many of our largest customers' mission-critical business applications. Our Mainframe Solutions help customers improve economics by increasing throughput and lowering cost per transaction, increase business agility through DevOps tooling and processes, increase reliability and availability of operations through machine intelligence and automation solutions, and protect enterprise data with security and compliance. Due largely to mobile application usage and the IoT, greater than 75% of mainframe users are experiencing MIPS (millions of instructions per second), or usage, growth. We are viewed as a long-term strategic partner to our largest customers to help them manage this usage growth, while simultaneously helping them with their core business and IT challenges. Within Mainframe Solutions, our areas of focus include *:*

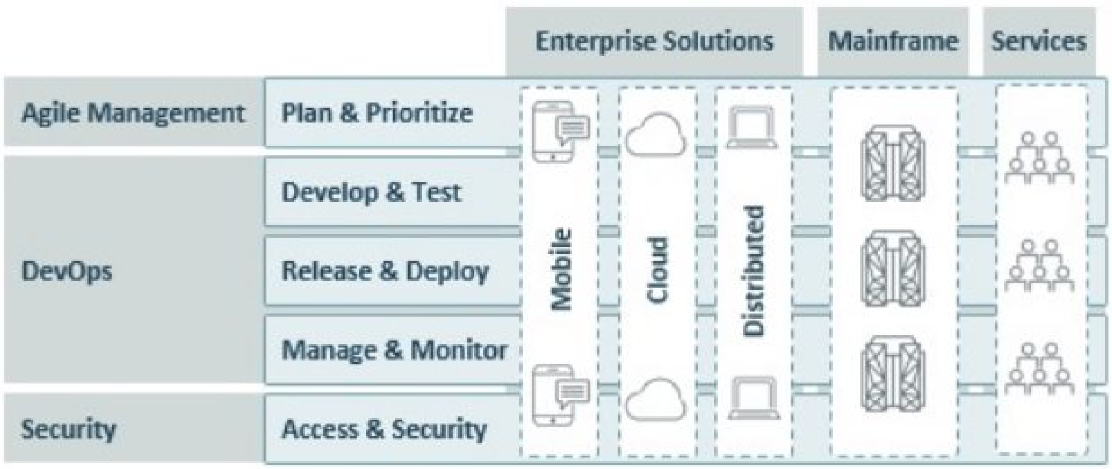
- *DevOps* solutions help customers increase the innovation velocity for mainframe applications and teams. We support agile development processes and modern languages, as well as tools for development, testing and deployment that support collaboration across the software development lifecycle and across mobile to mainframe teams.
- *Operations Intelligence and Automation* solutions help customers adopt machine learning and bring more intelligence and automation to their mainframe operations. With machine learning, operations teams can proactively prevent problems, fix issues faster and get more done with fewer resources. We provide a unified view of z Systems performance across the infrastructure stack, including applications, middleware, networks, systems, storage and data.

- *Security & Compliance* solutions help customers address stringent data security and compliance requirements, such as EU General Data Protection Regulation (GDPR), by finding sensitive data, classifying data for compliance purposes, alerting risks in real-time, and inspecting threats to protect mission-essential data-running 100 percent on the mainframe.

Our Enterprise Solutions and Mainframe Solutions segments are complementary and strengthen each other in several ways (Refer to *Figure 1 - Complementary Segments* below). First, our customers benefit from the ability of CA solutions to span their entire infrastructure stack, across distributed, cloud and mainframe. This is critical as customers focus on their end users' experiences on their apps and the underlying transactions that traverse their heterogeneous environments. CA is one of the few companies positioned to deliver solutions that span cloud, open systems and mainframe environments, reducing our customers' cost of ownership and improving their time-to-service error resolution. For example, our *Workload Automation* solutions support all platforms - mobile to mainframe - enabling customers across a number of industry verticals to deliver seamless operations and intelligent automation. Second, we are able to leverage our core strengths and development efforts in our products within the Enterprise Solutions segment to bring new innovations to the mainframe. *CA Release Automation Connector for z/OS* , which supports release automation on all platforms, is a good illustration of this synergistic relationship. Our continued investment in the mainframe sustains ongoing customer commitment to our mainframe solutions. From our Agile and Security expertise to UIM and APM solutions specifically tailored for the mainframe, our customers benefit from our synergistic portfolio. Third, the Enterprise Solutions segment benefits from CA's heritage in running mission critical applications for many of the world's largest companies. This gives us access to decision makers and consideration for new sales opportunities that would otherwise be more difficult to obtain. Finally, CA benefits from the operational and financial synergies that result from our expertise in both segments.

Our *Services* help customers reach their IT and business goals primarily by enabling the rapid implementation and adoption of our mainframe and enterprise solutions. Our professional services team consists of experienced professionals who provide a variety of services, such as consulting, implementation, application management services, education and support services, to both commercial and government customers. With approximately 1,000 certified consultants, architects, project managers and advisors located in 30 countries and an extensive partner ecosystem, CA Services works with customers to navigate complex business and technology challenges and deliver the services that best meet the customer's business goals throughout the entire solution lifecycle.

Figure 1 - Complementary Segments



Business Strategy

Our goal is to be the world's leading independent software provider for IT management and security solutions that help organizations and enterprises plan, develop, manage, and secure modern software environments, across mainframe, distributed, cloud and mobile platforms. To accomplish this, key elements of our strategy include:

- *Drive organic innovation.* Our product development strategy is built around key growth areas, where we are focused on innovating and delivering differentiated products and solutions across both distributed and mainframe platforms. We are focused on developing solutions that are easy to use, easy to implement and have a low total cost of ownership. A key element of our organic innovation approach is the broad adoption of the Agile methodology to govern our software development process, which we believe improves our product development time-to-market, quality and relevance, and supports our customer success initiatives.

- *Incubate technology for next generation products.* We are researching and dedicating resources to the development of emerging technologies that are logical extensions of our core areas of focus. We are working on opportunities in areas such as containers, data analytics, big data and open source, some of which may enhance or extend our current product portfolio and others of which may evolve into new product categories.
- *Pursue new business models and expanded routes to market.* While our traditional on-premise software delivery remains relevant to many enterprise customers, we see cloud-based and try-and-buy models as attractive to both our existing and potential customers. These models simplify decision-making and accelerate the value customers can derive from new solution investments. New delivery models allow us to extend our market reach, speed adoption of our solutions, improve our efficiencies and compete more effectively for a larger number of customers globally. As such, our new product development is focused on our customers' need for solutions that are simple and cost-effective to buy, install, deploy, manage and secure.
- *Expand relationships with our global customer base and address opportunities with new and underserved customers.* We are focused on maintaining and expanding the strong relationships with our established customer base, and will proactively target growth with other potential customers that we do not currently serve. In parallel, we seek to broaden our customer base to new buyers in geographic regions we have underserved. The emerging roles of CISOs and Chief Development Officers impacts who and where IT environment purchasing decisions are made within our customers. This shift aligns with the product portfolio decisions we are making across our solutions set to meet our customers' accelerating need for speed and agility. We are refining our sales, services, marketing and customer success resources to reach beyond the customers' Chief Information Officer and IT department to serve these new customer roles and respond to changes in customer buying behaviors.
- *Execute strategic and disciplined technology acquisitions.* We intend to supplement our organic innovation efforts with key technology acquisitions that are within or adjacent to our core areas of focus. We conduct a thorough acquisition process, which includes build vs. buy analysis and opportunity identification, detailed business case modeling, rigorous due diligence and extensive integration, to fully realize the value of our acquisitions. We also focus on organically developing nascent technologies from companies we have acquired to endow them with the necessary interoperability, resilience and security to operate at scale in the large, heterogeneous IT environments utilized by our customers.

Fiscal 2017 Business Developments and Highlights

The following are significant developments and highlights relating to our business during fiscal 2017 :

- In October 2016, we completed our acquisition of BlazeMeter, a privately-held provider of open source-based continuous application performance testing.
- In November 2016, Kieran McGrath was appointed Executive Vice President and Chief Financial Officer.
- In November 2016, we held our user conference, CA World '16. This event showcased our unique strength in serving customers in the Application Economy. The event highlighted our solutions as well as our vision of the future to thousands of customers and partners.
- In January 2017, we completed our acquisition of Automic Holding GmbH, a privately-held provider of business process and IT automation software.
- In March 2017, we issued $500 million of 3.600% Senior Notes due August 2022 and $350 million of 4.700% Senior Notes due March 2027.
- In March 2017, we completed our acquisition of Veracode, Inc., a privately-held provider of cloud-based security testing solutions for web, mobile and third-party applications across the software development lifecycle.

Seasonality

Some of our business results are seasonally weighted toward the second half of our fiscal year, including cash flow from operations and total bookings. However, these business results may not always follow this pattern during a fiscal year. Given the varying durations and dollar amounts of the contracts being renewed, year-over-year comparisons of total bookings are not always indicative of the overall total bookings trend.

Customers

We currently serve customers across most major industries worldwide, including banks, insurance companies, other financial services providers, government agencies, global IT service providers, telecommunication providers, manufacturers, technology companies, retailers, educational organizations and health care institutions. Our traditional customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. As the emergence of cloud computing has democratized the technology landscape, we have increased our focus on addressing a broader customer set.

No single customer accounted for 10% or more of our total revenue for fiscal 2017 , 2016 or 2015 . Approximately 6% and 7% of our total revenue backlog at March 31, 2017 and 2016 , respectively, is associated with multi-year contracts signed with the U.S. federal government and other U.S. state and local government agencies, which are generally subject to annual fiscal funding approval and/or renegotiation or termination at the discretion of the government.

Sales and Marketing

We offer our solutions through our direct sales force and indirectly through our partners. We remain focused on strengthening relationships with our core customers and partners - approximately our top 500 accounts, which we refer to as our "Platinum" accounts - through product leadership, account management and a differentiated customer experience. We believe enhanced relationships in our traditional customer base of large enterprises with multi-year enterprise license agreements will drive renewals and provide opportunities to increase account penetration that will help to drive revenue growth.

We are working to accelerate the velocity of our sales transactions by dedicating sales resources and deploying additional solutions to address opportunities to sell to new enterprises and to expand our relationship with existing non-Platinum customers - which we refer to as our "Named" and "Growth/Partners" (or Partner-led) customers. Named customers are large potential customers with whom we currently do not have a strong presence and where a competitor often has an established relationship. Growth/Partners customers are mid-size potential customers with whom we currently do not have a strong presence and generally address through partners. Additionally, we have implemented broad-based business initiatives to drive continued improvement in sales execution. We are continuing to shift to a more product-driven sales approach, using real-time data and intelligence to drive on-going evolution of our go-to-market strategy towards the highest potential and highest-yielding markets.

In fiscal 2018, we will streamline and migrate the nomenclature of Platinum, Named and Growth to two groups, Enterprise and Commercial. Our Enterprise sales group will encompass our Platinum customers as well as our largest Named customers. Our Commercial sales group will be entirely served by our digital sales team and partners. We believe this will enable us to better serve a broader set of potential customers globally and can support a lower cost, higher velocity go-to-market strategy for CA over time.

Our sales organization operates globally, with groups serving the North America (NA); Europe, the Middle East and Africa (EMEA); Latin America (LA); and Asia Pacific and Japan (APJ) geographies. We operate through branches, subsidiaries and partners around the world. Approximately 36% and 36% of our revenue in fiscal 2017 and 2016 , respectively, was from operations outside of the United States. At March 31, 2017 and 2016 , we had approximately 3,000 and 2,500, respectively, of sales and sales support personnel.

Marketing has played a key role in the ongoing transformation of our company, having helped to both reshape perceptions of CA and build capability that enables us to better serve our customer's digital transformation. The critical role we play in enabling companies to compete and service customers in a software-defined era is now better understood and driving interest in our offerings. Based on research conducted across global markets, CA Technologies' brand positioning, "Business, rewritten by software,™" has resonated and the campaigns are positively influencing key reputation metrics and future consideration of our in purchase decisions. In particular, we see shifting historical market perceptions of us towards attributes and attitudes that better reflect our current portfolio of capability. Operationally, to accelerate the role marketing plays in creating demand, we have sharpened our talent, tools and processes to better reach new customers to drive a higher velocity of opportunity creation for sales. Our marketing and sales organizations now utilize common systems and analytics to initiate and respond to market opportunities, optimize resources, maximize efficiency and drive awareness and consideration of our brand and portfolio capabilities across our broad base of customers and prospects.

Partners

Our partners represent a foundational component of our go-to-market strategy. Our objective is to leverage our solutions and our partners' strengths to deliver exceptional customer experiences, create greater value for our customers, and drive profitable and sustainable growth for both us and our partners. At the core of our global partner strategy, we aim to align our products, routes to market, customer segments and our focus partners. Our data-driven approach of aligning our global partner strategy with market opportunities, channel trends and dynamic changes in the industry enables us to match our offerings and investments to specific markets.

We work with partners in all our geographic regions and focus on five key routes to market:

- *Resellers* derive revenue primarily from the resale of third-party products. We work with a number of key strategic national and regional reseller partners to expand our global reach.
- *Global Service Providers* provide a platform for application infrastructure or cloud-based service offerings. We seek to establish long-term partnerships to support the development of innovative, differentiated service offerings.
- *Global System Integrators* offer our software within their business practices, leveraging their process design, planning, and vertical expertise to provide holistic solutions and implementation services to our joint customers.

- *Managed Service Providers* leverage our solutions to power their subscription-based IT services. We work together to deliver differentiated, high-value managed services.
- *Global Technology Partners* (including Independent Software Vendors and Infrastructure and Public Cloud Vendors) offer an opportunity for joint solutions, innovative business models, and CA brand awareness.

Customer Success

The Customer Success organization is made up of customer experience designers, customer advocates, technical support engineers, community managers and an advanced customer data analytics team that together have one common goal to deliver a superior end-to-end customer experience that creates and sustains satisfaction and loyalty, and serves as a source of competitive advantage for CA.

The Customer Success teams work with customers to understand their unique business challenges to help maximize the value of their investments in our solutions. The Customer Success team aligns with members from education, support, services, partners and development to drive customer adoption, facilitate product expansion and to provide maximum return in minimal time.

CA Support engineers work with customers post-sale to assist in migration and upgrades, resolve issues 24/7, and create self-help knowledge documentation. CA Support operates in 36 locations worldwide, providing assistance in 16 languages while consistently earning industry-leading customer satisfaction ratings.

Throughout the customer experience, customers are encouraged to join online communities to interact and engage with their peers, partners, and our CA experts. We have more than 50,000 community members in over 40 communities who network, ask and answer questions, and share knowledge about our solutions.

Research and Development

We have approximately 5,100 employees globally who design, develop, and support our software. We operate principal research and development centers across the US, including New York, California, Colorado, Texas, Illinois and Massachusetts. Internationally, we have principal centers in Prague, Czech Republic as well as Hyderabad and Bangalore, India.

In fiscal 2017, research and development focused on developing solutions that are easy for customers to install, use and maintain, and improving the quality and stability in our broadly deployed products which allows us to focus investment towards innovation initiatives.

We are advancing our Agile Management, DevOps and Security solutions while endeavoring to build a common technology stack across several of our product lines. We are making strides towards this shared component approach to make it easier, faster and more efficient for new solutions to be built.

We are also accelerating innovation with our CA Accelerator, which uses an incubator model to apply lean start-up best practices to grow new businesses. We are interested in areas of increasing importance to enterprises, such as big data, analytics, containerization, developer productivity, security and the IoT. This model ensures we are making appropriate investments and building technology that customers value, using a small-batch, cost-efficient approach. We are also utilizing university partnerships to support and advance development.

Our research and development activities include a number of efforts to support our technical community in its pursuit of creating leading solutions for customers. We continue to use two CA initiatives, the Office of the CTO Research and CA University Relations, to strengthen our relationships with research communities by working with academia, professional associations, industry standards bodies, customers and partners to explore novel products and emerging technologies. We also engage with universities to conduct product-focused research to create solutions for emerging opportunities.

We have charged to operations $586 million , $560 million , and $603 million in fiscal 2017 , 2016 and 2015 , respectively, for product development and enhancements.

Our product offerings and go-to-market strategy continue to evolve to include solutions that may be delivered either on-premise or via SaaS or cloud platforms. We expect our product offerings to continue to become available to customers at more frequent intervals than our historical release cycles. Over the last few years, we have continued to leverage Agile development methodologies, which are characterized by a dynamic development process with more frequent revisions to a product release’s features and functions as the software is being developed. In addition, we have implemented a holistic portfolio management process, which has improved transparency and efficiency across the portfolio through a quarterly cadence of business reviews.

Intellectual Property

Our products and technology are generally proprietary. We rely on U.S. and foreign intellectual property laws, including patent, copyright, trademark and trade secret laws, to protect our proprietary rights. However, the extent and duration of protection given to different types of intellectual property rights vary under different countries' legal systems. In some countries, full-scale intellectual property protection for our products and technology may be unavailable, and the laws of other jurisdictions may not protect our proprietary technology rights to the same extent as the laws of the United States. We also maintain contractual restrictions in our agreements with customers, employees and others to protect our intellectual property rights. These restrictions generally bind our customers and employees to confidentiality regarding our intellectual property and limit our customers' use of our software and prohibit certain disclosures to third parties.

We regularly license software and technology from third parties, including some competitors, and incorporate them into our own software products. We include third-party technology in our products in accordance with contractual relationships that specify our rights.

We believe that our patent portfolio differentiates our products and services from those of our competitors, enhances our ability to access third-party technology and helps protect our investment in research and development. We continue to enhance our internal patent program to increase our ability to capture patents, strengthen their quality and increase the pace at which we are able to move our innovations through the patent process. At March 31, 2017 , our patent portfolio included more than 1,350 issued patents and more than 900 pending applications in the United States and abroad. The patents generally expire at various times over the next 20 years. Although the durations and geographic intellectual property protection coverage for our patents may vary, we believe our patent portfolio adequately protects our interests. Although we have a number of patents and pending applications that may be of value to various aspects of our products and technology, we are not aware of any single patent that is essential to us or to any of our reportable segments.

The source code for our products is protected both as trade secrets and as copyrighted works. Our customers do not generally have access to the source code for our products. Rather, on-premise customers typically access only the executable code for our products, and SaaS customers access only the functionality of our SaaS offerings. Under certain contingent circumstances, some of our customers are beneficiaries of a source code escrow arrangement that enables them to obtain a limited right to access our source code.

We continue to be engaged in efforts to more fully employ our intellectual property by strategically licensing and/or assigning selected assets within our portfolio. This effort is intended to better position us in the marketplace and allow us the flexibility to reinvest in improving our overall business.

Product Licensing and Maintenance

For traditional, on-premise licensing, we typically license to customers either perpetually or on a subscription basis for a specified term. Our customers also purchase maintenance and support services that provide technical support and any general product enhancements released during the maintenance period.

Under a perpetual license, the customer has the right to use the licensed program for an indefinite period of time, typically upon payment of a one-time license fee. If the customer wants to receive maintenance, the customer is required to pay an additional annual maintenance fee.

Under a subscription license, the customer has the right to usage and maintenance of the licensed products during the term of the agreement. Under our licensing terms, customers can license our software products under multi-year licenses, with most customers choosing terms of three to five years, although some customers seeking greater cost certainty may negotiate longer terms. Thereafter, the license generally renews for the same period of time on the same terms and conditions, but subject to the customer's payment of our then-applicable fees.

Within these license categories, our contracts provide customers with the right to use our products under a variety of models including, but not limited to:

- A typical designated central processing unit (CPU) license, under which the customer may use the licensed product on a single, designated CPU.
- A MIPS-based license, which allows the customer to use the licensed product on one or more CPUs, limited by the aggregate MIPS rating of the CPUs covered by the license.
- A user-based license, under which the customer may use the licensed product by or for the agreed number of licensed users.
- A designated server license, under which the customer may use a certain distributed product on a single, designated server. The licensed products must be licensed for use with a specific operating system.

Customers can obtain licenses to our products through individual discrete purchases to meet their immediate needs or through the adoption of enterprise license agreements. Enterprise license agreements are comprehensive licenses that cover multiple products and also provide for maintenance and support.

For our mainframe solutions, the majority of our licenses provide customers with the right to use one or more of our products up to a specific license capacity, generally measured in MIPS. For these products, customers may acquire additional capacity during the term of a license by paying us an additional license fee. For our enterprise solutions, our licenses may provide customers with the right to use one or more of our products limited to a number of servers, users or copies, among other things. Customers may license these products for additional servers, users or copies, etc., during the term of a license by paying us an additional license fee.

SaaS is another delivery model we offer for certain products when a customer prefers to use our technology off-premises with little or no infrastructure required. Our SaaS offerings are typically licensed for a designated term using a subscription fee. Our SaaS products, which are becoming a larger part of our Enterprise Solutions portfolio, typically have a shorter average duration and smaller initial contract values compared to the more traditional on-premise delivery model.

Competition

Our industry is extremely competitive and characterized by: rapid technological change; the emergence of new companies and products; evolving industry standards, computing platforms, go-to-market and business models; and continually changing customer needs.

Our competition can generally be categorized into the following groups:

- A broad set of start-ups in a number of our product segments that lack near-term profit expectations;
- Larger incumbents that can bundle software to generate other revenue capture;
- Increasing adoption of open source solutions that may substitute for commercial spend; and
- Continued expansion of cloud service provider offerings embedded with management and security capabilities.

Among the companies with which we compete are: Apigee Corporation (recently acquired by Google); AppDynamics, Inc. (recently acquired by Cisco); Atlassian Corporation, Plc; BMC Software Inc.; Compuware Corporation; CyberArk Software, Ltd.; Dell Inc.; Hewlett-Packard Enterprise Company; International Business Machines Corporation; Microsoft Corporation; Oracle Corporation; ServiceNow, Inc.; SolarWinds, Inc.; Splunk, Inc.; and VMware, Inc.

We believe our experience managing mission-critical capabilities for major global corporations, our platform and hardware independence, and our deep customer relationships set us apart from other established competitors in the market. Further, we believe we are differentiated from emerging point-product providers by our global reach, breadth and synergy of offerings, and deep industry experience.

Employees

We believe that innovation and invention are the by-products of an inclusive and diverse workplace. Diversity of perspective, experience and thought are key to driving creativity, innovation, and results. We are committed to providing equitable opportunities and giving employees avenues for success - both personally and professionally. We believe that workforce diversity is an important topic in the technology sector, and we are dedicated to moving the conversation on diversity forward.

We had approximately 11,800 and 11,000 employees at March 31, 2017 and 2016 , respectively.

Fiscal 2017 Employee Highlights

- In May 2016, we were named a Best Company for Multicultural Women by Working Mother Magazine.
- In September 2016, we were named one of Working Mother Magazine’s 100 Best Companies.
- In December 2016, we were named one of Fortune’s Best Workplaces for Parents by Great Places to Work®.
- In December 2016, we received a perfect score of 100 percent on the 2017 Corporate Equality Index (CEI), a national benchmarking survey and report on corporate policies and practices related to LGBT workplace equality, administered by the Human Rights Campaign (HRC) Foundation.
- In March, 2017, we were named one of the World’s Most Ethical Companies by The Ethisphere Institute.

Financial Information About Geographic Areas

Refer to Note 17 “Segment and Geographic Information,” in the Notes to the Consolidated Financial Statements for financial data pertaining to our segment and geographic operations.

Corporate Information

The Company was incorporated in Delaware in 1974, began operations in 1976 and completed an initial public offering of common stock in December 1981. Our common stock is traded on The NASDAQ Global Select Market tier of The NASDAQ Stock Market LLC under the symbol “CA.”

Our corporate website address is www.ca.com. All filings we make with the Securities and Exchange Commission (SEC), including our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K, our proxy statements and any amendments thereto filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available for free in the Investor Relations section of our website (www.ca.com/invest) as soon as reasonably practicable after they are filed with or furnished to the SEC. Our SEC filings are available to be read or copied at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Information about the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. Our filings can also be obtained for free on the SEC's website at www.sec.gov. The reference to our website address does not constitute inclusion or incorporation by reference of the information contained on our website in this Form 10-K or other filings with the SEC, and the information contained on our website is not part of this document.

The Investor Relations section of our website (www.ca.com/invest) also contains information about our initiatives in corporate governance, including: our Corporate Governance Principles; information about our Board of Directors (including specific procedures for communicating with them); information concerning our Board of Directors Committees, including the charters of the Audit Committee, the Compensation and Human Resources Committee and the Corporate Governance Committee; and our Code of Conduct (which qualifies as a "code of ethics" under applicable SEC regulations and is applicable to all of our employees, including our Chief Executive Officer, Chief Financial Officer and Principal Accounting Officer, and our directors are expected to act consistently with the underlying ethical principles of such code). These documents can also be obtained in print by writing to our Corporate Secretary at CA, Inc., 520 Madison Avenue, New York, New York 10022.

Item 1A. Risk Factors.

Current and potential stockholders should consider carefully the risk factors described below. Any of these factors, many of which are beyond our control, could materially adversely affect our business, financial condition, operating results, cash flow and stock price.

Failure to achieve success in our business strategy could materially adversely affect our business, financial condition, operating results and cash flow.

As more fully described in Part I, Item 1 "Business," of this Form 10-K, our business strategy is designed to build on our portfolio of software and services to meet current and next-generation market opportunities. The success of this strategy could be affected by many of the risk factors discussed in this Form 10-K and also by our ability to:

- Ensure that any new offerings address the needs of a rapidly changing market while not adversely affecting the demand for our traditional products or our profitability to an extent greater than anticipated;
- Enable our sales force to accelerate growth of sales to new customers and expand sales with existing customers, including sales outside of our renewal cycle and to a broadening set of purchasers outside of traditional information technology operations. This growth needs to be at levels sufficient to offset any decline in revenue and/or sales in our Mainframe Solutions segment and in certain mature product lines in our Enterprise Solutions segment:
  - in our Enterprise customer accounts, where we typically have strong existing customer relationships; and
  - in our Commercial customer accounts, which are entirely served by our digital sales team and partners, and represents our greatest opportunity to expand our customer base;
- Effectively manage the strategic shift in our business model to develop more easily installed software, provide additional SaaS offerings and refocus our professional services and education engagements on those engagements that are connected to new product sales, without affecting our financial performance to an extent greater than anticipated; and
- Effectively manage our pricing and other go-to-market strategies, as well as improve the CA Technologies brand, technology and innovation awareness in the marketplace.

Failure to innovate or adapt to technological changes and introduce new software products and services in a timely manner could materially adversely affect our business.

If we fail to keep pace with, or in certain cases lead, technological change in our industry, that failure could materially adversely affect our business. We operate in a highly competitive industry characterized by rapid technological change, evolving industry standards, and changes in customer requirements and delivery methods. During the past several years, many new technological advancements and competing products entered the marketplace. The enterprise solutions markets in which we operate (including non-mainframe platforms from physical to virtual and cloud) are far more crowded and competitive than our traditional mainframe systems management markets.

Our ability to compete effectively and our growth prospects for all of our products, including those associated with our business strategy, depend upon many factors, including the success of our existing enterprise solutions, the timely introduction and success of future software products and services, including those that we acquire or develop, and related delivery methods (*e.g.* , SaaS), our ability to provide, and success in providing, timely and adequate customer support and the ability of our products to perform well with existing and future leading databases and other platforms supported by our products that address customer needs and are accepted by the market. We have experienced long development cycles and product delays in the past, particularly with some of our enterprise solutions, and even under the Agile development methodology, we may experience delays in the future. In addition, we have incurred, and expect to continue to incur, significant research and development costs as we introduce new products and integrate products into solution sets. If there are delays in new product introduction or solution set integration, or if there is less-than-anticipated market acceptance of these new products or solution sets, we will have invested substantial resources without realizing adequate revenues in return. There can be no assurance that as technologies become outdated or new technologies are required, we will be able to adapt or introduce them as quickly as our competitors, or within budgeted costs and time frames.

We are subject to intense competition in product and service offerings and pricing, and we expect to face increased competition in the future, which could either diminish demand for, or inhibit growth of, our products and, therefore, reduce our sales, revenue and market presence.

The markets for our products are intensely competitive, and we expect product and service offerings and pricing competition to increase. Some of our competitors have longer operating histories, greater name recognition, a larger installed base of customers in any particular market niche, larger technical staffs, established relationships with hardware vendors, or greater financial, technical and marketing resources than us. Furthermore, our business strategy is predicated upon our ability to develop and acquire products and services that address customer needs and are accepted by the market better than those of our competitors. There can be no assurance that we will effectively meet these competitive demands.

We face competition from numerous start-ups and smaller companies that specialize in specific aspects of the highly fragmented software industry, and from shareware or open source authors that may develop competing products. In addition, new companies enter the market on a frequent and regular basis, offering products that compete with those offered by us. Moreover, certain customers develop their own products that compete with those offered by us. Competition may affect our ability to attract and retain the technical skills needed to provide services to our customers, forcing us to become more reliant on delivery of services through third parties. This, in turn, could increase operating costs and decrease our revenue, profitability and cash flow. Additionally, competition from any of these sources could result in price reductions or displacement of our products, which could materially adversely affect our business, financial condition, operating results and cash flow.

Our competitors also include large vendors of hardware and operating system software and cloud service providers, who continue to both expand their product and service offerings, and consolidate offerings into broad product lines. The widespread inclusion of products that perform the same or similar functions as our products bundled within computer hardware or other companies' software products, or services similar to those provided by us, could reduce the perceived need for our products and services, or render our products obsolete and unmarketable. Furthermore, even if these incorporated products are inferior or more limited than our products, customers may elect to accept the incorporated products rather than purchasing our products. In addition, the software industry is currently undergoing consolidation as software companies seek to offer more extensive suites and broader arrays of software products and services, as well as integrated software and hardware solutions. This consolidation may adversely affect our competitive position, which could materially adversely affect our business, financial condition, operating results and cash flow. Refer to Part I, Item 1, "Business - Competition," of this Form 10-K for additional information.

If our products do not remain compatible with ever-changing operating environments, platforms, or third party products, we could lose customers and the demand for our products and services could decrease, which could materially adversely affect our business, financial condition, operating results and cash flow.

The largest suppliers of systems and computing software are, in most cases, the manufacturers of the computer hardware systems used by most of our customers, particularly in the mainframe space. Historically, these companies have from time to time modified or introduced new operating systems, systems software and computer hardware. In the future, new products from these companies could require substantial modification of our products to maintain compatibility with these companies' hardware or software. There can be no assurance that we will be able to adapt our products and our business to future changes introduced by hardware manufacturers and system software developers.

Further, our solutions interact with a variety of software and hardware developed by third parties and we may lose access to third-party code and specifications for the development of code, which could materially adversely affect our ability to develop software compatible with third-party software products in the future. Some software providers and hardware manufacturers, including some of the largest vendors, have a policy of restricting the use or availability of their code or technical documentation for some of their operating systems, applications, or hardware. To date, this policy has not had a material effect on us. Some companies, however, may adopt more restrictive policies in the future or impose unfavorable terms and conditions for such access. These restrictions may, in the future, result in higher research and development costs for us in connection with the enhancement and modification of our existing products and the development of new products. Any additional restrictions could materially adversely affect our business, financial condition, operating results and cash flow.

In addition, the emergence of cloud computing means that many of our enterprise solutions customers are themselves undergoing a radical shift in the way they deliver IT services to their businesses. The shift towards delivering infrastructure and SaaS from the cloud may negatively affect our ability to sell IT management solutions to our traditional enterprise solutions customers. Failure to adapt our products, solutions, delivery models and sales approaches to effectively plan for cloud computing may adversely affect our business. If we are not successful in anticipating the rate of market change towards the cloud computing paradigm and evolving with it by delivering solutions for IT management in the cloud computing environment, customers may forgo the use of our products, particularly certain mature product lines in our Enterprise Solutions segment, in favor of those with comparable functionality delivered via the cloud.

Given the global nature of our business, economic factors or political events beyond our control and other business and legal risks associated with global operations can affect our business in unpredictable ways.

International revenue has historically represented a significant percentage of our total worldwide revenue. Success in selling and developing our products throughout the world depends on a variety of factors, including:

- Developing and executing an effective go-to-market strategy in various locations;
- Foreign exchange rates;
- Changes in global, economic and political landscapes;
- Restrictive local laws regarding the transfer of funds from, or the conversion of currencies in, certain countries;
- Acts of terrorism;
- Workforce reorganizations in various locations, including global reorganizations of sales, research and development, technical services, finance, human resources and facilities functions;
- Effectively staffing key managerial and technical positions;
- Successfully localizing software products for a significant number of international markets;
- Restrictive employment regulation;
- Trade restrictions such as tariffs, duties, taxes or other controls;
- International intellectual property laws, which may be more restrictive or may offer lower levels of protection than U.S. law; and
- Compliance by us and our partners (including unaffiliated third-party partners) with differing local laws, regulations and interpretations in multiple international jurisdictions, as well as compliance with U.S. laws and regulations where applicable in these international locations, such as anti-corruption, competition, anti-money laundering, export control and data privacy laws and regulations, including the U.S. Foreign Corrupt Practices Act of 1977, the UK Bribery Act of 2010, the EU-U.S. and Swiss-U.S. Privacy Shield Frameworks, as well as the new EU GDPR, which becomes effective in May 2018, the Network and Information Security Directive in the EU, trade controls and sanctions administered by the U.S. Office of Foreign Assets Control, and similar laws and regulations in other jurisdictions.

In addition to affecting our success, negative effects of any of these factors may increase the cost of doing business internationally. We have implemented policies, procedures and controls designed to achieve compliance with applicable laws and regulations, but our corporate policies, process and controls may not prevent or detect all potential breaches of law or other governance practices. We occasionally identify or are apprised of information or allegations that certain employees, affiliates, agents or associated persons may have violated these laws. Any violation of these laws could lead to substantial civil and criminal fines and penalties, litigation, loss of operating licenses or permits and other collateral consequences. An unfavorable development regarding any of the foregoing factors could materially adversely affect our business, financial condition, operating results and cash flow.

Failure to expand our partner programs and sales of our solutions by our partners may result in lost sales opportunities and a weakening of our market position.

In addition to our direct sales efforts, we sell our products and solutions through various partner channels, which include resellers, global service providers, global system integrators, managed service providers and global technology partners. Through our various global partner programs, we provide incentives, training, enablement and marketing investments so our partners have the capability and expertise to sell and deliver these solutions to their customers. We also leverage global systems integrators and global technology partners to assist with and influence the sales of solutions to our top customers and we plan on utilizing resellers to better penetrate the partner-driven customer market. The failure to expand these partner programs and investments, or the failure of our partners to maintain or increase their sales of our products, could adversely affect our overall business success, including our market position. This could result in lost incremental sales opportunities that partners provide and, as a result, could materially adversely affect our business, financial condition, operating results and cash flow.

Our business may suffer if we are not able to retain and attract qualified professionals, including key managerial, technical, marketing and sales professionals.

We operate in a business where there is intense competition for experienced personnel in all of our global markets. We depend on our ability to identify, recruit, hire, train, develop and retain qualified and effective professionals and to attract and retain talent needed to execute our business strategy. We also depend on our ability to perform these tasks with respect to professionals from acquired companies, which ability may be negatively impacted by our efforts to integrate and rationalize the products and lines of business we have acquired. Our ability to do so depends on numerous factors, including factors that we cannot control, such as competition and conditions in the local employment markets in which we operate. Effective succession planning is also important for our long-term success. Failure to ensure effective transfers of knowledge and smooth transitions involving key employees could hinder our strategic planning and execution. Our success depends in a large part on the continued contribution of our senior management and other key employees. A loss of a significant number of skilled managerial, technical or other professionals could have a negative effect on the quality of our products. A loss of a significant number of experienced and effective sales professionals could result in fewer sales of our products. Furthermore, many of our key personnel receive a compensation package that includes equity awards. Any new regulations, volatility in the stock market or other factors could diminish our use, and the value, of our equity awards, putting us at a competitive disadvantage or forcing us to use a higher proportion of cash compensation to incentivize our key personnel.

General economic conditions and credit constraints, or unfavorable economic conditions in a particular region, business or industry sector, may lead our customers to delay or forgo technology investments and could have other impacts, any of which could materially adversely affect our business, financial condition, operating results and cash flow.

Our products are designed to improve the productivity and efficiency of our customers' information processing resources. However, a general slowdown in the global economy or in a particular region (such as Europe), a disruption in a business or an industry sector (such as the financial services sector), or tightening of credit markets could cause customers to have difficulty accessing credit sources, delay contractual payments, or delay or forgo decisions to (i) license new products (particularly with respect to discretionary spending for software), (ii) upgrade their existing environments or (iii) purchase services. Any such impacts could materially adversely affect our business, financial condition, operating results and cash flow.

A general slowdown in the global economy may also materially affect the global banking system, including individual institutions as well as a particular business or industry sector, which could cause consolidations or failures in that sector. Approximately one third of our revenue is derived from arrangements with financial institutions (*i.e.,* banking, brokerage and insurance companies). In addition, we derive material portions of our revenue from other industries such as telecommunications and health care that rely on transaction processing. The majority of these arrangements are for the renewal of mainframe solutions capacity and maintenance associated with transactions processed by our customers. While we cannot predict what impact there may be on our business from changes to the financial industry, telecommunications or health care sectors, or the impact on our business from the economy in general, to date the impact has not been material to our balance sheet, results of operations or cash flow. Any material change in general economic conditions, or conditions in a particular sector, may lead our customers to delay or forgo technology investments and could have other impacts, and of which could affect the manner in which we are able to conduct business.

We may encounter difficulties in successfully integrating companies and products that we have acquired or may acquire into our existing business, which could materially adversely affect our infrastructure, market presence, business, financial condition, operating results and cash flow.

In the past we have acquired, and in the future we expect to acquire, complementary companies, products, services and technologies through a number of different vehicles, including through mergers, asset acquisitions, joint ventures, partnerships, strategic alliances and equity investments. Additionally, we expect to acquire technology that is consistent with our business strategy. The risks we may encounter include:

- We may find that the acquired company or assets do not improve our financial and/or strategic position as planned;

- We may have difficulty integrating the operations, facilities, personnel and compensation plans of the acquired business;
- We may have difficulty retaining the skills needed to further market, sell or provide services on the acquired products in a manner that will be accepted by the market;
- We may have difficulty incorporating the acquired technologies or products into our existing product lines, and in selling such technologies or products to our customers;
- Our ongoing business may be disrupted by transition or integration issues and our management’s attention may be diverted from other business initiatives;
- Our relationships with current and new employees, customers and business partners could be impaired;
- An acquisition may result in increased litigation risk, including litigation from terminated employees or third parties, as well as product, customer or intellectual property liability;
- Our due diligence process may fail to identify significant issues with the acquired company’s product quality, financial disclosures, accounting practices, internal control deficiencies including material weaknesses, product architecture, legal and tax contingencies, compliance with differing, changing and potentially inconsistent local laws, regulations and interpretations in multiple international jurisdictions, as well as compliance with U.S. laws and regulations where applicable in these international locations, and other matters; and
- We may not be able to realize the benefits of recognized goodwill and intangible assets and this may result in the potential impairment of these assets.

These risks can be heightened during periods when we seek to integrate multiple acquisitions at the same time or in a relatively short period of time. To the extent we issue shares of stock or other rights to purchase stock, including options, to pay for acquisitions or to retain employees, existing stockholders’ interests may be diluted and income per share may decrease.

Our sales to government clients subject us to risks, including lack of fiscal funding approval, renegotiation or termination at the discretion of the government, as well as audits and investigations, which could result in litigation, penalties and sanctions including early termination, suspension and debarment.

Approximately 6% of our total revenue backlog at March 31, 2017 is associated with multi-year contracts signed with the U.S. federal government and other U.S. state and local government agencies. These contracts are generally subject to annual fiscal funding approval and may be renegotiated or terminated at the discretion of the government. Termination, renegotiation or the lack of funding approval for a contract could adversely affect our sales, revenue and reputation. Additionally, our government contracts are generally subject to certain requirements, some of which are generally not present in commercial contracts and/or may be complex, as well as to audits and investigations. Failure to meet contractual requirements could result in various civil and criminal actions and penalties, and administrative sanctions, including termination of contracts, refund of a portion of fees received, forfeiture of profits, suspension of payments, fines and suspensions or debarment from doing business with the government and could materially adversely affect our business, financial condition, operating results and cash flow. Refer to Note 11, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements for additional information about litigation and related matters in this area.

Our data center, network and software products, and the IT environments of our business partners and customers are subject to hacking or other cybersecurity threats, which could result in a loss or misuse of proprietary, personally identifiable and confidential information and/or harm to our customer relationships and the market perception of the effectiveness of our products.

Given that some of our products are intended to manage and secure IT infrastructures and environments, we expect to be an ongoing target of cybersecurity attacks. Open source code or other third-party software used in our infrastructure and products could also be targeted. This risk can be heightened for acquired products, which may not have gone through the same testing and quality control measures as our organically developed products. Additionally, our SaaS business includes the hosting of customer data and uses third-party data centers that may also be subject to hacking incidents. If our SaaS business increases substantially, whether due to organic growth or the acquisition of SaaS businesses, our exposure to hacking incidents could increase due to the increase in the volume of SaaS business activity and the potential increase in the number of SaaS technology platforms we might maintain. Although we continually seek to improve our countermeasures to prevent such incidents, we may be unable to anticipate every scenario and cybersecurity attacks could require significant expenditures of our capital and diversion of our resources. Additionally, efforts by hackers or others could cause interruptions, delays or cessation of our product licensing, or modification of our software, which could cause us to lose existing or potential customers. If these attacks are successful, they could result in the theft of proprietary, personally identifiable, confidential and sensitive information of ours, our employees, our customers and our business partners, and could materially disrupt business for us, our customers and our business partners. A successful cybersecurity attack could also negatively impact the market perception of the effectiveness of our products or lead to contractual disputes, litigation or government regulatory action against us, any of which could materially adversely affect our business.

If we do not adequately manage, evolve and protect our information systems, infrastructure and processes, our ability to manage and grow our business may be harmed.

We rely on our information systems and those of third parties for managing the financial information of our business. Any disruption in such information systems could have a significant impact on our business. In addition, we continuously work to enhance our information systems and infrastructure and integrate those of acquired companies. The implementation of these types of enhancements and the integration with information systems of acquired companies is frequently disruptive to the underlying business. Additionally, delays in adapting our information systems to address new business models, such as SaaS, could limit the success or result in the failure of those initiatives and impair the effectiveness of our internal controls.

Although we have implemented a disaster recovery program, our system redundancy may be ineffective or inadequate and our disaster recovery planning may not be sufficient for all situations, including scenarios associated with acquired companies. Failure to adequately address these issues, as well as to manage and protect our infrastructure, could result in the diversion of management's attention and resources, adversely affect our ability to manage our business, including our SaaS business, and to meet our obligations to our customers.

Failure to renew license agreement transactions on a satisfactory basis could materially adversely affect our business, financial condition, operating results and cash flow.

Many of our customers have multi-year enterprise license agreements, some of which may involve substantial aggregate fee amounts. These customers have no contractual obligation to purchase additional solutions and renewal rates may decline or fluctuate as a result of a number of factors, including the level of customer satisfaction with our solutions or customer support, customer budgets and the pricing of our solutions as compared with the solutions offered by our competitors, any of which may cause our revenue to grow more slowly than expected, if at all. The failure to renew those transactions in the future, or failure to replace those enterprise license agreements with renewal transactions of similar scope, on terms that are commercially attractive to us, could materially adversely affect our business, financial condition, operating results and cash flow.

Fluctuations in foreign exchange rates could result in losses.

We operate global businesses and our consolidated financial results are reported in U.S. dollars. Most of the revenue and expenses of our foreign subsidiaries are denominated in local currencies. Given that cash is typically received over an extended period of time for many of our license agreements and given that a substantial portion of our revenue is generated outside of the United States, fluctuations in foreign exchange rates against the U.S. dollar could result in substantial changes in reported revenues and operating results due to the foreign exchange impact of translating these transactions into U.S. dollars.

In the normal course of business, we employ various hedging strategies to partially mitigate these risks, including the use of derivative instruments. These strategies may not be effective in protecting us against the effects of fluctuations from movements in foreign exchange rates. Fluctuations of the foreign exchange rates could materially adversely affect our business, financial condition, operating results and cash flow.

Changes in generally accepted accounting principles may materially adversely affect our reported results of operation or financial condition.

From time to time, the Financial Accounting Standards Board (FASB) issues new accounting principles. For example, in May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* , with amendments in 2015 and 2016, which creates new ASC Topic 606 (Topic 606) that will replace most existing revenue recognition guidance in U.S. generally accepted accounting principles (GAAP) when it becomes effective for us in the first quarter of fiscal 2019. While we are continuing to assess all potential effects of the new standard, we currently anticipate that this standard will have a material effect on our consolidated financial statements, revenue recognition policies and disclosures, and believe the most significant impact relates to the timing of the recognition of our software license revenue. Under Topic 606, more judgment and estimates will be required within the revenue recognition process than are required under existing GAAP. Refer to Note 1, "Significant Accounting Policies," in the Notes to the Consolidated Financial Statements for additional information about this and other new accounting pronouncements. Changes to existing rules, or changes to the interpretations of existing rules, including, but not limited to, the changes within Topic 606, could lead to changes in our accounting policies and systems. Such changes could materially adversely affect our reported financial results and stock price.

Discovery of errors or omissions in our software products could materially adversely affect our revenue and earnings and subject us to costly and time consuming product liability claims.

The software products we offer are inherently complex. Despite testing and quality control, we cannot be certain that errors or omissions will not be found in current versions, new versions, documentation or enhancements of our software products after commencement of commercial shipments. This risk can be heightened with acquired products which may not have gone through the same testing and quality control measures as our organically developed products. If new or existing customers have difficulty deploying our products or require significant amounts of customer support, our operating margins could be adversely affected. We could also face possible claims and higher development costs if our products contain errors that we have not detected, cause damage to customer or third-party systems, or otherwise fail to meet customer expectations. Significant technical challenges also arise with our products because our customers license and deploy our products across a variety of computer platforms and integrate them with a number of third party software applications and databases. These combinations increase our risk further because, in the event of a system-wide failure, it may be difficult to determine which product is at fault. As a result, we may be harmed by the failure of another supplier's products. As a result of the foregoing, we could experience:

- Loss of or delay in revenue and loss of market share;
- Loss of customers, including the inability to obtain repeat business with existing key customers;
- Damage to our reputation;
- Failure to achieve market acceptance;
- Diversion of development resources;
- Remediation efforts that may be required;
- Increased service and warranty costs;
- Legal actions by customers or government authorities against us that, whether or not successful, could be costly, distracting and time-consuming;
- Increased insurance costs; and
- Failure to successfully complete service or customer support engagements for product installations, implementations and integrations.

Consequently, the discovery of errors in our products after delivery could materially adversely affect our business, financial condition, operating results and cash flow.

Failure to protect our intellectual property rights and source code could weaken our competitive position.

Our success is highly dependent upon our proprietary technology. We protect our rights through a variety of measures, including patents, copyrights, trademarks, trade secret laws, confidentiality procedures and contractual provisions. Notwithstanding our efforts to protect our rights, policing unauthorized use is difficult, and intellectual property litigation can be expensive and disruptive to our business. The laws of other countries may not be as protective as those of the United States. In addition, our patents may be circumvented, challenged, invalidated or designed around by other companies. Furthermore, confidentiality procedures and contractual provisions can be difficult to enforce and, even if successfully enforced, may not be entirely effective. Refer to Part I, Item 1, "Business - Intellectual Property," of this Form 10-K for additional information. Failure to protect such technology could lead to the loss of valuable assets and our competitive advantage.

Certain software that we use in our products is licensed from third parties and, for that reason, may not be available to us in the future, which has the potential to delay product development and production or cause us to incur additional expense, which could materially adversely affect our business, financial condition, operating results and cash flow.

Some of our solutions contain software licensed from third parties. Some of these licenses may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future products or the enhancement of existing products. We may also choose to pay a premium price for such a license in certain circumstances where the benefit of continuity of the licensed product would outweigh the premium cost of the license.

Certain software we use is from open source code sources, which, under certain circumstances, may lead to unintended consequences and, therefore, could materially adversely affect our business, financial condition, operating results and cash flow.

Some of our products, both organically developed and acquired, contain software from open source code sources. The use of such open source code may subject us to certain conditions, including the obligation to offer our products that use open source code for no cost or to make the proprietary source code of those products publicly available. Further, although some open source vendors provide warranty and support agreements in conjunction with the use of their open source software, it is common for many open source software authors to make their open source software available “as-is” with no warranty, indemnity or support. We monitor our use of such open source code to avoid subjecting our products to conditions we do not intend. However, the use of such open source code may ultimately subject some of our products to unintended conditions, which could require us to take remedial action that may divert resources away from our development efforts.

Third parties could claim that our products infringe or contribute to the infringement of their intellectual property rights and/or that we owe royalty payments to them, which could result in significant litigation expense or settlement with unfavorable terms.

From time to time, third parties have claimed and may claim that our products, both organically developed and acquired, infringe various forms of their intellectual property and/or that we owe royalty payments to them. Investigation of these claims can be expensive and could affect development, marketing or shipment of our products. As the number of software patents issued increases, it is likely that additional claims will be asserted. Defending against such claims is time consuming and could result in significant litigation expense, adverse judgments or settlement on unfavorable terms, which could materially adversely affect our business, financial condition, operating results and cash flow.

The number, terms and duration of our license agreements, as well as the timing of orders from our customers and channel partners, may cause fluctuations in some of our financial metrics, which may affect our quarterly financial results.

Historically, a substantial portion of our license agreements are executed in the last month of a quarter and the number of contracts executed during a given quarter can vary substantially. In addition, it is characteristic of our industry when dealing with enterprise customers to experience long sales cycles, which for us is driven in part by the varying terms and conditions of our software contracts. These factors can make it difficult for us to predict sales and cash flow on a quarterly basis. Any failure or delay in executing new or renewed license agreements in a given quarter could cause declines in some of our financial metrics (e.g., revenue or cash flow), and, accordingly, increases the risk of unanticipated variations in our quarterly results.

Potential tax liabilities may materially adversely affect our results.

We are subject to income taxes in the United States and in numerous foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the ordinary course of our business, we engage in many transactions and calculations where the ultimate tax determination is uncertain.

We are regularly under audit by tax authorities. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different from that which is reflected in our income tax provisions and accruals. Additional tax assessments resulting from audit, litigation or changes in tax laws may result in increased tax provisions or payments or possibly criminal claims, penalties or fines which could materially adversely affect our business, financial condition, operating results and cash flow in the period or periods in which that determination is made. Refer to Note 15, “Income Taxes,” in the Notes to the Consolidated Financial Statements for additional information about our tax matters.

Changes in market conditions or our credit ratings could increase our interest costs and adversely affect the cost of refinancing our debt and our ability to refinance our debt, which could materially adversely affect our business, financial condition, operating results and cash flow.

At March 31, 2017 and 2016 , we had $2,791 million and $1,953 million , respectively, of debt outstanding, consisting mostly of unsecured senior note obligations. Refer to Note 8, “Debt,” in the Notes to the Consolidated Financial Statements for the payment schedule of our long-term debt obligations. Our senior unsecured notes are rated by Moody’s Investors Service, Fitch Ratings, and Standard and Poor’s. These agencies or any other credit rating agency could downgrade or take other negative action with respect to our credit ratings in the future. If our credit ratings were downgraded or other negative action is taken, or market conditions change, we could be required to, among other things, pay additional interest on outstanding borrowings under our principal revolving credit agreement and term loan agreement. Any downgrades or changes in market conditions could affect our ability to obtain additional financing in the future and may affect the terms of any such financing.

We expect that existing cash, cash equivalents, short-term investments, cash provided from operations and our bank credit facilities will be sufficient to meet ongoing cash requirements. However, our failure to generate sufficient cash as our debt becomes due, renew credit lines prior to their expiration or refinance our existing debt on satisfactory terms could materially adversely affect our business, financial condition, operating results and cash flow.

We may encounter events or circumstances that would require us to record an impairment charge relating to our goodwill or capitalized software and other intangible assets balances.

Under GAAP, we are required to evaluate our capitalized software and other intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. We test goodwill for impairment at least annually, and more frequently if impairment indicators are present. In future periods, we may be subject to factors that may constitute a change in circumstances, indicating that the carrying value of our goodwill exceeds fair value or our capitalized software and other intangible assets may not be recoverable. These changes may consist of, but are not limited to, declines in our stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in our industry. Any of these factors, or others, could require us to record a significant non-cash impairment charge in our financial statements during a period. Acquisitions can result in additional goodwill or capitalized software and other intangible assets balances subject to impairment risk. If we determine that a significant impairment of our goodwill or our capitalized software and other intangible assets has occurred in any of our operating segments, this could materially adversely affect our business, financial condition and operating results.

We have outsourced various functions to third parties. These arrangements may not be successful or fully secure, which could result in increased costs or an increased chance of a cybersecurity breach.

We have outsourced various functions to third parties, including certain product development and administrative functions, cloud-based services and hosting for our SaaS business. We may continue to outsource additional functions to third parties in the future. These outsourced functions may involve confidential and/or personally identifiable information. We rely on these third parties to provide outsourced services on a timely and effective basis and to adequately address their own cybersecurity threats. Although we periodically monitor the performance of these third parties and maintain contingency plans in case the third parties are unable to perform as agreed, we do not ultimately control the performance of these third parties. The failure of third-party outsourcing partners or vendors to perform as expected could result in significant disruptions and costs to our operations or our customers' operations, including the potential loss of personally identifiable information of our customers, employees and business partners and could subject us to legal action by government authorities or private parties.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal real estate properties are located in areas necessary to meet our operating requirements. All of the properties are considered to be both suitable and adequate to meet our current and anticipated operating requirements.

At March 31, 2017 , we leased 42 facilities throughout the United States and 67 facilities outside the United States. Our lease obligations expire on various dates with the longest commitment extending to fiscal 2027. We believe that substantially all of our leases will be renewable at market terms at our option as they become due or that suitable alternatives will be available at market terms.

We own four facilities globally, consisting of one facility in Germany totaling approximately 100,000 square feet, one facility comprised of two buildings in Italy totaling approximately 140,000 square feet, one facility comprised of two buildings in India totaling approximately 455,000 square feet and one facility in the United Kingdom totaling approximately 215,000 square feet.

We utilize our leased and owned facilities for sales, technical support, research and development and administrative functions.

Item 3. Legal Proceedings.

Refer to Note 11, "Commitments and Contingencies," in the Notes to the Consolidated Financial Statements for information regarding certain legal proceedings, the contents of which are herein incorporated by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

*   *   *

Executive Officers of the Registrant.

The name, age, present position and business experience for at least the past five years of each of our executive officers at May 12, 2017 are listed below:

Michael P. Gregoire, 51, has been Chief Executive Officer and a director of the Company since January 2013. Previously, he served as President and Chief Executive Officer of Taleo Corporation (Taleo), a provider of on-demand talent management software solutions, from March 2005 until Taleo's acquisition by Oracle Corporation in April 2012. Mr. Gregoire also served as a director of Taleo from April 2005 until April 2012 and served as Taleo's Chairman of the Board from May 2008 until April 2012. Mr. Gregoire served as Executive Vice President, Global Services and held various other senior management positions at PeopleSoft, Inc., an enterprise software company, from May 2000 to January 2005. Mr. Gregoire served as Managing Director for global financial markets at Electronic Data Systems, Inc., a global technology services company, from 1996 to April 2000, and in various other roles from 1988 to 1996. Mr. Gregoire currently serves on the executive council of TechNet, a national bipartisan network of technology CEOs that promotes growth of the innovation economy, and as a director of NPower, a non-profit information technology services network.

Michael C. Bisignano, 46, has been Executive Vice President, General Counsel and Corporate Secretary of the Company since May 2015. He served as the Company's Executive Vice President and General Counsel from February 2015 to May 2015. He is responsible for all of the Company's legal and compliance functions worldwide. Previously, Mr. Bisignano served as Senior Vice President, General Counsel and Corporate Secretary of Blackboard, Inc., a provider of education technology solutions, from February 2012 to January 2015, Vice President, Deputy General Counsel and Assistant Corporate Secretary of Blackboard, Inc. from August 2010 to February 2012 and Vice President, General Counsel and Corporate Secretary of Online Resources Corporation, a software and SaaS technology provider, from June 2006 to August 2010.

Adam Elster, 49, has been the Company's President, Global Field Operations since August 2016. He is responsible for all sales for the Company and for building and maintaining customer and partner relationships across all sectors and geographies. Since joining the Company in 1999, Mr. Elster has held a number of senior management positions, including Executive Vice President and Group Executive, Worldwide Sales and Services from January 2014 to August 2016, Executive Vice President and Group Executive, Mainframe and Customer Success Group from February 2012 to January 2014, Executive Vice President, Global Business Organization and Business Transformation from August 2011 to February 2012, General Manager, CA Services, Support and Education from June 2011 to August 2011, Corporate Senior Vice President and General Manager, CA Services from November 2009 to June 2011, and Senior Vice President, Area Sales Manager for the Eastern United States, from July 2007 to November 2009.

Lauren P. Flaherty, 59, has been the Company's Executive Vice President and Chief Marketing Officer since August 2013. Previously, she was Executive Vice President and Chief Marketing Officer at Juniper Networks, Inc., which develops and markets networking products, from February 2009 to July 2013 and Chief Marketing Officer at Nortel Networks Corporation, a telecommunications and data networking equipment manufacturer, from May 2006 to December 2008.

Jacob Lamm, 52, has been the Company's Executive Vice President, Strategy and Corporate Development since February 2009. He is responsible for directing the Company's overall business strategy, as well as the Company's strategy for acquisitions. Mr. Lamm has held various management positions since joining the Company in 1998, including serving as Executive Vice President, Governance Group from January 2008 to February 2009 and as Executive Vice President and General Manager, Business Service Optimization Business Unit from March 2007 to January 2008.

Kieran J. McGrath, 58, has been Executive Vice President and Chief Financial Officer of the Company since November 2016. He served as the Company's Senior Vice President and interim Chief Financial Officer from July 2016 to November 2016, and as Senior Vice President and Corporate Controller from September 2014, when he joined the Company, until July 2016. Prior to joining the Company, Mr. McGrath was Vice President, Finance at International Business Machines Corporation, a cognitive solutions and cloud platform company, from January 2009 until August 2014.

Paul L. Pronsati, 59, has been the Company's Executive Vice President, Global Operations and Information Technology since November 2014. He is responsible for managing the Company's business operations worldwide and for overseeing the Company's information technology. Mr. Pronsati served as the Company's Senior Vice President, Global Operations and Information Technology from February 2013, when he joined the Company, until November 2014. Previously, he was Senior Vice President, Operations at Taleo from April 2005 to May 2012.

Ayman Sayed, 54, has been the Company's President, Chief Product Officer since August 2016. He served as the Company's Executive Vice President and Chief Product Officer from August 2015, when he joined the Company, until August 2016. Mr. Sayed is responsible for the strategy and development of CA's full portfolio of products and solutions. Previously, he served as Senior Vice President of Engineering, Mobility Virtualization Group at Cisco Systems, Inc., which designs and sells broad lines of products, provides services and delivers integrated solutions to develop and connect networks around the world, from August 2014 to August 2015, Senior Vice President of Engineering, Network Operating System Group from February 2012 to August 2014 and Vice President of Engineering, Enterprise Switching Group from June 2010 to February 2012.

Part II

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

Our common stock is traded on The NASDAQ Global Select Market tier of The NASDAQ Stock Market LLC (NASDAQ) under the symbol "CA." The following table sets forth, for the fiscal quarters indicated, the quarterly high and low closing sales prices on NASDAQ:

	Fiscal 2017		Fiscal 2016	
	High	Low	High	Low
Fourth Quarter	$ 33.25	$ 30.95	$ 31.11	$ 25.83
Third Quarter	$ 33.29	$ 30.41	$ 29.35	$ 26.53
Second Quarter	$ 34.85	$ 31.95	$ 30.71	$ 25.57
First Quarter	$ 33.58	$ 29.36	$ 32.39	$ 29.07

At April 28, 2017 , we had approximately 4,500 stockholders of record.

We have paid cash dividends each year since July 1990. During fiscal 2017 , 2016 and 2015 , we paid annual cash dividends of $1.02, $1.00 and $1.00 per share, respectively. During fiscal 2017 , 2016 and 2015 , we paid quarterly cash dividends of $0.255, $0.25 and $0.25 per share, respectively.

Purchases of Equity Securities by the Issuer

The following table sets forth, for the months indicated, our purchases of common stock in the fourth quarter of fiscal 2017 :

Issuer Purchases of Equity Securities

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
	(in thousands, except average price paid per share)			
January 1, 2017 — January 31, 2017	—	$ —	—	$ 650,000
February 1, 2017 — February 28, 2017	—	$ —	—	$ 650,000
March 1, 2017 — March 31, 2017	—	$ —	—	$ 650,000
Total	—		—	

In November 2015, our Board of Directors (Board) approved a stock repurchase program that authorized us to acquire up to $750 million of our common stock. We expect to repurchase shares on the open market, through solicited or unsolicited privately negotiated transactions or otherwise from time to time based on market conditions and other factors.

During fiscal 2017, we repurchased 3.1 million shares of our common stock for $100 million . At March 31, 2017 , we remained authorized to purchase $650 million of our common stock under our current stock repurchase program.

In November 2015, we entered into and closed on an arrangement with Careal Holding AG (Careal) to repurchase 22 million shares of our common stock in a private transaction. The transaction was valued with an effective share repurchase price of $26.81 per share, which represented a 3% discount to the 10-trading day volume weighted average price of our common stock using a reference date of November 5, 2015. Our payment to Careal upon closing was reduced by $0.25 per share to account for our dividend that was paid on December 8, 2015 to stockholders of record on November 19, 2015. As a result of the share repurchase and dividend payment, in total we paid Careal $590 million during the third quarter of fiscal 2016 in connection with the 22 million shares repurchased. The transaction was funded with U.S. cash on hand and effectively concluded our prior $1 billion stock repurchase program approved by our Board in May 2014.

Including the November 2015 share repurchase arrangement with Careal, we repurchased 26 million shares of our common stock for $707 million during fiscal 2016.

During fiscal 2015, we repurchased 7.2 million shares of our common stock for $215 million .

Item 6. Selected Financial Data.

The information set forth below should be read in conjunction with the “Results of Operations” section included in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

	Year Ended March 31,				
Statement Of Operations And Other Data	2017	2016	2015	2014	2013
	(in millions, except per share amounts)				
Revenue	$ 4,036	$ 4,025	$ 4,262	$ 4,412	$ 4,504
Income from continuing operations (1)	$ 775	$ 769	$ 810	$ 887	$ 921
Cash provided by operating activities — continuing operations	$ 1,039	$ 1,034	$ 1,030	$ 973	$ 1,359
Basic income per common share from continuing operations	$ 1.85	$ 1.79	$ 1.83	$ 1.97	$ 2.00
Diluted income per common share from continuing operations	$ 1.85	$ 1.78	$ 1.82	$ 1.96	$ 1.99
Dividends declared per common share (2)	$ 1.02	$ 1.00	$ 1.00	$ 1.00	$ 1.00

	At March 31,				
Balance Sheet Data	2017	2016	2015	2014	2013
	(in millions)				
Working capital surplus (3)	$ 727	$ 667	$ 1,048	$ 635	$ 584
Working capital surplus, excluding current deferred revenue (4)	$ 2,949	$ 2,864	$ 3,162	$ 3,054	$ 3,010
Total assets	$ 12,610	$ 11,204	$ 10,973	$ 12,008	$ 11,810
Long-term debt (less current maturities)	$ 2,773	$ 1,947	$ 1,247	$ 1,244	$ 1,269
Stockholders’ equity	$ 5,689	$ 5,378	$ 5,625	$ 5,570	$ 5,450

(1) In fiscal 2014, we incurred after-tax charges of $114 million for costs associated with our Fiscal Year 2014 Rebalancing Plan (Fiscal 2014 Plan).

(2) In fiscal 2017, dividends declared per common share were $0.255 per quarter. In each of fiscal 2016, 2015, 2014 and 2013, dividends declared per common share were $0.25 per quarter.

(3) Working capital surplus is current assets less current liabilities.

(4) Deferred revenue includes amounts billed or collected in advance of revenue recognition, including subscription license agreements, maintenance and professional services. It does not include unearned revenue on future installments not yet billed at the respective balance sheet dates.

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

Introduction

This “Management’s Discussion and Analysis of Financial Condition and Results of Operations” (MD&A) is intended to provide an understanding of our financial condition, changes in financial condition, cash flow, liquidity and results of operations. This MD&A should be read in conjunction with our Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements appearing elsewhere in this Form 10-K and the Risk Factors included in Part I, Item 1A of this Form 10-K, as well as other cautionary statements and risks described elsewhere in this Form 10-K.

Business Overview

CA Technologies is a global leader in software solutions enabling customers to plan, develop, manage and secure applications and enterprise environments across distributed, cloud, mobile and mainframe platforms. Most of the Global Fortune 500, as well as many government agencies around the world, rely on CA to help manage their increasingly dynamic and complex environments.

We have a broad portfolio of software solutions that we use to execute our business strategy and organize our offerings in Enterprise Solutions, Mainframe Solutions and Services operating segments.

Our *Enterprise Solutions* segment includes products that are designed for distributed and cloud computing environments and run on industry standard servers. Within Enterprise Solutions, our areas of focus include:

- *Agile Management* enables customers to plan, deliver and manage information technology (IT) and business services for their customers. Our solutions and Agile services enable customers to improve delivery time on projects, reduce costs and optimize resources.
- *DevOps* is adjacent to Agile Management and comprises a range of solutions that allow customers to efficiently deliver and manage applications and IT infrastructure. With our portfolio of solutions, customers can reduce the delivery time of new applications, increase the frequency of new releases and dramatically improve quality.
- *Security* includes a comprehensive set of solutions that address the global imperative to minimize the risk of data breaches and alleviate the pressures faced by Chief Information Security Officers (CISOs) as a result of increasing information security regulations. Our solutions facilitate digital transformation by providing secure customer experiences, enabling a collaborative enterprise, empowering a digital workforce and securing the 'Internet of Things.' CA's Security suite simplifies the complexity of managing the trusted digital relationships among people, devices, and applications both on-premise and in the cloud.

Our *Mainframe Solutions* are designed for the IBM z Systems™ platform, which runs many of our largest customers' mission-critical business applications. Our Mainframe Solutions help customers improve economics by increasing throughput and lowering cost per transaction, increase business agility through DevOps tooling and processes, increase reliability and availability of operations through machine intelligence and automation solutions, and protect enterprise data with security and compliance. Within Mainframe Solutions, our areas of focus include *:*

- *DevOps* solutions help customers increase the innovation velocity for mainframe applications and teams. We support agile development processes and modern languages, as well as tools for development, testing and deployment that support collaboration across the software development lifecycle and across mobile to mainframe teams.
- *Operations Intelligence and Automation* solutions help customers adopt machine learning and bring more intelligence and automation to their mainframe operations. With machine learning, operations teams can proactively prevent problems, fix issues faster and get more done with fewer resources. We provide a unified view of z Systems performance across the infrastructure stack, including applications, middleware, networks, systems, storage and data.
- *Security & Compliance* solutions help customers address stringent data security and compliance requirements, such as EU General Data Protection Regulation (GDPR), by finding sensitive data, classifying data for compliance purposes, alerting risks in real-time, and inspecting threats to protect mission-essential data-running 100 percent on the mainframe.

Our *Services* help customers reach their IT and business goals primarily by enabling the rapid implementation and adoption of our mainframe and enterprise solutions. Our professional services team consists of experienced professionals who provide a variety of services, such as consulting, implementation, application management services, education and support services, to both commercial and government customers.

Our goal is to be the world's leading independent software provider for IT management and security solutions that help organizations and enterprises plan, develop, manage, and secure modern software environments, across mainframe, distributed, cloud and mobile platforms. To accomplish this, key elements of our strategy include:

- *Drive organic innovation.* Our product development strategy is built around key growth areas, where we are focused on innovating and delivering differentiated products and solutions across both distributed and mainframe platforms.
- *Incubate technology for next generation products.* We are researching and dedicating resources to the development of emerging technologies that are logical extensions of our core areas of focus. We are working on opportunities in areas such as containers, data analytics, big data and open source, some of which may enhance or extend our current product portfolio and others of which may evolve into new product categories.
- *Pursue new business models and expanded routes to market.* While our traditional on-premise software delivery remains relevant to many enterprise customers, we see cloud-based and try-and-buy models as attractive to both our existing and potential customers. These models simplify decision-making and accelerate the value customers can derive from new solution investments.
- *Expand relationships with our global customer base and address opportunities with new and underserved customers.* We are focused on maintaining and expanding the strong relationships with our established customer base, and will proactively target growth with other potential customers that we do not currently serve.
- *Execute strategic and disciplined technology acquisitions.* We intend to supplement our organic innovation efforts with key technology acquisitions that are within or adjacent to our core areas of focus. We also focus on organically developing nascent technologies from companies we have acquired to endow them with the necessary interoperability, resilience and security to operate at scale in the large, heterogeneous IT environments utilized by our customers.

CA Technologies Business Model

We generate revenue from the following sources: license fees — licensing our products on a right-to-use basis; maintenance fees — providing customer technical support and product enhancements; service fees — providing professional services such as product implementation, consulting, customer training and customer education; and software as a service (SaaS) offerings. SaaS is another delivery model we offer to our customers who prefer to utilize our technology off-premise with little to no infrastructure required. Our SaaS offerings are typically licensed using a subscription fee, most commonly on a monthly or annual basis. The timing and amount of fees recognized as revenue during a reporting period are determined in accordance with generally accepted accounting principles in the United States of America (GAAP). Revenue is reported net of applicable sales taxes.

Under our business model, we offer customers a wide range of licensing options. For traditional, on-premise licensing, we typically license to customers either perpetually or on a subscription basis for a specified term. Our customers also purchase maintenance and support services that provide technical support and any general product enhancements released during the maintenance period.

Under a perpetual license, the customer has the right to use the licensed program for an indefinite period of time upon payment of a one-time license fee. If the customer wants to receive maintenance, the customer is required to pay an additional annual maintenance fee.

Under a subscription license, the customer has the right to usage and maintenance of the licensed products during the term of the agreement. Under our flexible licensing terms, customers can license our software products under multi-year licenses, with most customers choosing terms of one-to-five years, although longer terms may sometimes be negotiated by customers in order to obtain greater cost certainty. Thereafter, the license generally renews for a similar period of time on similar terms and conditions, but subject to the customer's payment of our then prevailing subscription license and maintenance fee.

For our mainframe solutions, the majority of our licenses provide customers with the right to use one or more of our products up to a specific license capacity, generally measured in millions of instructions per second (MIPS). For these products, customers may acquire additional capacity during the term of a license by paying us an additional license fee and maintenance fee. For our enterprise solutions, our licenses may provide customers with the right to use one or more of our products limited to a number of servers, users or copies, among other things. Customers may license these products for additional servers, users or copies, etc., during the term of a license by paying us an additional license fee.

Our services are typically delivered on a time-and-materials basis, but alternative pay arrangements, such as fixed fee or staff augmentations, could be offered as well.

Executive Summary

A summary of key results for fiscal 2017 compared with fiscal 2016 is as follows:

Revenue

- Total revenue increased primarily as a result of an increase in software fees and other revenue, partially offset by decreases in subscription and maintenance revenue and professional services revenue. Total revenue included inorganic revenue from our acquisitions of Rally Software Development Corp. (Rally) and Xceedium, Inc. (Xceedium) in the first quarter of fiscal 2017, and from our acquisition of Automic Holding GmbH (Automic) in the fourth quarter of fiscal 2017. In general, we treat acquired technologies as organic in the quarter of their one year anniversary date.
- We expect revenue for fiscal 2018 to increase in a percentage in the low single digits. Excluding an expected unfavorable foreign exchange effect, we expect revenue for fiscal 2018 to increase in a percentage in the low to mid-single digits range.

Bookings

- Total bookings increased primarily due to an increase in renewals and an increase in new product sales.
- Renewal bookings increased by a percentage in the mid-teens primarily due to an increase in mainframe solutions renewals and, to a lesser extent, an increase in enterprise solutions renewals. The increase in mainframe solutions renewals was primarily due to an increase in the renewal portfolio for mainframe solutions products in fiscal 2017 and, to a lesser extent, a renewal with a large system integrator in excess of $475 million that occurred during the first quarter of fiscal 2017, which included a large amount of mainframe solutions products. The increase in enterprise solutions renewals was primarily attributable to renewals from our Rally, Xceedium and Automic acquisitions.
- Total new product sales increased by approximately 10% primarily due to an increase in enterprise solutions new product sales and, to a lesser extent, an increase in mainframe solutions new product sales.

- Mainframe Solutions new product sales (which includes sales of mainframe products and mainframe capacity) increased by a percentage in the mid-teens primarily due to an increase in sales of mainframe products, partially offset by a decrease in sales of mainframe capacity.
- Enterprise Solutions new product sales increased by a percentage in the high single digits primarily due to new product sales from our Rally, Xceedium and Automic acquisitions. Excluding acquisitions, Enterprise Solutions new product sales decreased by a percentage in the low single digits compared with fiscal 2016. Excluding acquisitions and an unfavorable foreign exchange effect, Enterprise Solutions new product sales was consistent compared with fiscal 2016. Enterprise Solutions new product sales performance was negatively affected by certain products that are more mature and not growing, but which generate positive segment operating margin and cash flows from operations.
- We expect fiscal 2018 renewals to decrease by a percentage in the high teens compared with fiscal 2017 primarily due to the aforementioned renewal with a large system integrator that occurred during the first quarter of fiscal 2017.

Expenses

- Operating expenses increased primarily as a result of fiscal 2017 having four quarters of expenses associated with our fiscal 2016 acquisitions of Rally and Xceedium, while fiscal 2016 only included three quarters of expenses. In addition, fiscal 2017 included additional expenses from our fourth quarter acquisition of Automic. These increases were partially offset by a favorable foreign exchange effect.

Income taxes

- Income tax expense for fiscal 2017 and fiscal 2016 was $298 million and $315 million , respectively.
- Our fiscal 2017 and 2016 effective tax rate was 27.8% and 29.1% , respectively. This decrease resulted primarily from reductions in valuation allowances.

Diluted income per common share

- Diluted income per common share from continuing operations increased to $1.85 from $1.78 primarily due to an overall share count reduction and a favorable foreign exchange effect, partially offset by an unfavorable effect from our acquisitions.

Segment results

- Mainframe Solutions revenue decreased primarily due to insufficient revenue from new sales to offset the decline in revenue contribution from renewals. Mainframe Solutions operating margin for fiscal 2017 was consistent compared with the year-ago period.
- Enterprise Solutions revenue increased primarily due to an increase in software fees and other revenue as a result of an increase in SaaS revenue and, to a lesser extent, an increase in sales of our enterprise solutions products recognized on an upfront basis, which included revenue from our fourth quarter acquisition of Automic. Enterprise Solutions operating margin for fiscal 2017 increased compared with the year-ago period primarily due to an increase in revenue and, to a lesser extent, a decrease in one-time acquisition-related transaction costs compared with the year-ago period.
- Services revenue decreased primarily due to a decline in professional services engagements from prior periods. This decline in professional services engagements was a result of several factors including our products being easier to install and manage, an increase in customers’ use of partners for services engagements and the completion of non-strategic projects during previous periods. Operating margin for Services decreased primarily due to an overall decline in professional services revenue and an increase in personnel-related costs as a result of severance actions during fiscal 2017.

Cash flow from continuing operations

- Net cash provided by operating activities from continuing operations increased slightly due to a decrease in vendor disbursements and payroll of $50 million and an increase in cash collections from billings of $24 million from higher single installment collections. These favorable effects were offset by an increase in other disbursements, net of $50 million, primarily due to $49 million of payments in connection with the litigation settlement agreements (refer to Note 11, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements for additional information), and an increase in income tax payments, net of $19 million.

Performance Indicators

Management uses several quantitative and qualitative performance indicators to assess our financial results and condition. Each provides a measurement of the performance of our business and how well we are executing our plan.

Our predominantly subscription-based business model is less common among our competitors in the software industry and it may be difficult to compare the results for many of our performance indicators with those of our competitors. The following is a summary of the performance indicators that management uses to review performance:

	Year Ended March 31,			
	2017	2016	Change	Percent Change
	(dollars in millions)			
Total revenue	$ 4,036	$ 4,025	$ 11	—%
Income from continuing operations	$ 775	$ 769	$ 6	1%
Cash provided by operating activities — continuing operations	$ 1,039	$ 1,034	$ 5	—%
Total bookings	$ 4,763	$ 4,247	$ 516	12%
Subscription and maintenance bookings	$ 3,918	$ 3,489	$ 429	12%
Weighted average subscription and maintenance license agreement duration in years	3.83	3.71	0.12	3%

	At March 31,			
	2017	2016	Change	Percent Change
	(dollars in millions)			
Cash and cash equivalents	$ 2,771	$ 2,812	$ (41)	(1)%
Total debt	$ 2,791	$ 1,953	$ 838	43 %
Total expected future cash collections from committed contracts (1)	$ 5,304	$ 4,520	$ 784	17 %
Total revenue backlog (1)	$ 7,556	$ 6,829	$ 727	11 %
Total current revenue backlog (1)	$ 3,240	$ 3,113	$ 127	4 %

(1) Refer to the discussion in the "Liquidity and Capital Resources" section of this MD&A for additional information about expected future cash collections from committed contracts and revenue backlog.

Analyses of our performance indicators shown above and our segment performance can be found in the "Results of Operations" and "Liquidity and Capital Resources" sections of this MD&A.

Total Revenue: Total revenue is the amount of revenue recognized during the reporting period from the sale of license, maintenance, SaaS and professional services agreements. Amounts recognized as subscription and maintenance revenue are recognized ratably over the term of the agreement. Professional services revenue is generally recognized as the services are performed or recognized on a ratable basis over the term of the related software arrangement. Software fees and other revenue generally represents license fee revenue recognized at the inception of a license agreement (upfront basis) and also includes our SaaS revenue, which is recognized as services are provided.

Subscription and Maintenance Revenue: Subscription and maintenance revenue is the amount of revenue recognized ratably during the reporting period from: (i) subscription license agreements that were in effect during the period, generally including maintenance that is bundled with and not separately identifiable from software usage fees or product sales, (ii) maintenance agreements associated with providing customer technical support and access to software fixes and upgrades that are separately identifiable from software usage fees or product sales, and (iii) license agreements bundled with additional products, maintenance or professional services for which vendor specific objective evidence (VSOE) has not been established. These amounts include the sale of products directly by us, as well as by distributors and volume partners, value-added resellers and exclusive representatives to end-users, where the contracts incorporate the right for end-users to receive unspecified future software products, and other contracts entered into in close proximity or contemplation of such agreements. The vast majority of our subscription and maintenance revenue in any particular reporting period comes from contracts signed in prior periods, generally ranging in duration from three to five years.

Total Bookings: Total bookings, or sales, includes the incremental value of all subscription, maintenance and professional services contracts and software fees and other contracts entered into during the reporting period and is generally reflective of the amount of products and services during the period that our customers have agreed to purchase from us. License fees for bookings attributed to sales of software products for which revenue is recognized on an upfront basis is reflected in "Software fees and other" in our Consolidated Statements of Operations, while the maintenance portion is reflected in "Subscription and maintenance" in our Consolidated Statements of Operations. Our SaaS bookings are recognized as revenue in "Software fees and other," generally ratably over the term of the SaaS arrangement, rather than upfront.

Our management looks within total bookings at renewal bookings, which we define as bookings attributable to the renewable value of a prior contract (*i.e.,* the maintenance value and, in the case of non-perpetual licenses, the license value), and at total new product sales, which we define as sales of mainframe and enterprise solutions products and mainframe solutions capacity that are new or in addition to sales of products or mainframe solutions capacity previously contracted for by a customer. Renewal bookings, as we report them, do not include new product or capacity sales or professional services arrangements and are reflected as subscription and maintenance bookings in the period (for which revenue is recognized ratably over the term of the contract). Renewals can close before their scheduled renewal date for a number of reasons, including customer preference, customer needs for additional products or capacity, or at our request. The level of contracts closed prior to scheduled expiration dates and the reasons for such closings can vary from quarter to quarter. Generally, quarters with smaller renewal inventories result in a lower level of bookings, since renewals remain an important opportunity for new product sales.

Mainframe Solutions new product sales and capacity growth can be inconsistent on both a quarterly and annual basis. We believe the period-over-period change in Mainframe Solutions new product sales and capacity combined is an appropriate measure of performance and, therefore, we provide only total Mainframe Solutions new sales information, which includes mainframe solutions capacity. The amount of new product sales for a period, as currently tracked by us, requires estimation by management and has been historically reported by providing only growth rate comparisons. Within a given period, the amount of new product sales may not be material to the change in our total bookings or revenue compared with prior periods. New product sales can be reflected as subscription and maintenance bookings in the period (for which revenue would be recognized ratably over the term of the contract) or in software fees and other bookings (which are recognized as software fees and other revenue in the current period).

Subscription and Maintenance Bookings: Subscription and maintenance bookings is the aggregate incremental amount we expect to collect from our customers over the terms of the underlying subscription and maintenance agreements entered into during a reporting period. These amounts include the sale of products either directly by us or through distributors and volume partners, value-added resellers and exclusive representatives to end-users and may include the right for the customer to receive unspecified future software products and/or additional products, services or other fees for which we have not established VSOE for all undelivered elements. These amounts are expected to be recognized ratably as subscription and maintenance revenue over the applicable term of the agreements. Subscription and maintenance bookings excludes the value associated with perpetual licenses for which revenue is recognized on an upfront basis, SaaS offerings and professional services arrangements.

Within bookings, we also consider the yield on our renewals. We define "renewal yield" as the percentage of the renewable value of a prior contract (*i.e.,* the maintenance value and, in the case of non-perpetual licenses, the license value) realized in current period bookings. The renewable value of a prior contract is an estimate affected by various factors including contractual renewal terms, price increases and other conditions. Price increases are not considered as part of the renewable value of the prior period contract. We estimate the aggregate renewal yield for a quarter based on a review of material transactions representing a majority of the dollar value of renewals during the current period. There may be no correlation between year-over-year changes in bookings and year-over-year changes in renewal yield, since renewal yield is based on the renewable value of contracts of various durations, most of which are longer than one year.

The license and maintenance agreements that contribute to subscription and maintenance bookings represent binding payment commitments by customers over periods that range generally from three to five years, although in certain cases customer commitments can be for longer or shorter periods. These current period bookings are often renewals of prior contracts that also had various durations, usually from three to five years. The amount of new subscription and maintenance bookings recorded in a period is affected by the volume, duration and value of contracts renewed during that period. Subscription and maintenance bookings typically increases in each consecutive quarter during a fiscal year, with the first quarter having the least bookings and the fourth quarter having the most bookings. However, subscription and maintenance bookings may not always follow the pattern of increasing in consecutive quarters during a fiscal year, and the quarter-to-quarter differences in subscription and maintenance bookings may vary. Given the varying durations and dollar amounts of the contracts being renewed, year-over-year comparisons of bookings are not always indicative of the overall bookings trend.

Additionally, period-to-period changes in subscription and maintenance bookings do not necessarily correlate to changes in cash receipts. The contribution to current period revenue from subscription and maintenance bookings from any single license or maintenance agreement is relatively small, since revenue is recognized ratably over the applicable term for these agreements.

Weighted Average Subscription and Maintenance License Agreement Duration in Years: The weighted average subscription and maintenance license agreement duration in years reflects the duration of all subscription and maintenance agreements executed during a period, weighted by the total contract value of each individual agreement. Weighted average subscription and maintenance license agreement duration in years can fluctuate from period to period depending on the mix of license agreements entered into during a period. Weighted average duration information is disclosed in order to provide additional understanding of the volume of our bookings.

Annualized Subscription and Maintenance Bookings: Annualized subscription and maintenance bookings is an indicator that normalizes the bookings recorded in the current period to account for contract length. It is calculated by dividing the total value of all new subscription and maintenance license agreements entered into during a period by the weighted average subscription and license agreement duration in years for all such subscription and maintenance license agreements recorded during the same period.

Total Revenue Backlog: Total revenue backlog represents the aggregate amount we expect to recognize as revenue in the future as either subscription and maintenance revenue, professional services revenue or software fees and other revenue associated with contractually committed amounts billed or to be billed as of the balance sheet date. Total revenue backlog is composed of amounts recognized as liabilities in our Consolidated Balance Sheets as deferred revenue (billed or collected) as well as unearned amounts yet to be billed under subscription and maintenance and software fees and other agreements. Classification of amounts as current and noncurrent depends on when such amounts are expected to be earned and, therefore, recognized as revenue. Amounts that are expected to be earned and, therefore, recognized as revenue in 12 months or less are classified as current, while amounts expected to be earned in greater than 12 months are classified as noncurrent. The portion of the total revenue backlog that relates to subscription and maintenance agreements is recognized as revenue evenly on a monthly basis over the duration of the underlying agreements and is reported as subscription and maintenance revenue in our Consolidated Statements of Operations. Generally, we believe that an increase or decrease in the current portion of revenue backlog on a year-over-year basis is a favorable or unfavorable indicator of future subscription and maintenance revenue performance, respectively, due to the high percentage of our revenue that is recognized from license agreements that are already committed and being recognized ratably. The value of backlog can fluctuate based upon the timing of contract expirations.

“Deferred revenue (billed or collected)” is composed of: (i) amounts received from customers in advance of revenue recognition and (ii) amounts billed but not collected for which revenue has not yet been earned.

Results of Operations

The following table presents revenue and expense line items reported in our Consolidated Statements of Operations for fiscal 2017 , 2016 and 2015 and the period-over-period dollar and percentage changes for those line items. These comparisons of past results are not necessarily indicative of future results.

	Year Ended March 31, 2017	2016	2015	Dollar Change 2017/2016	Percent Change 2017/2016	Dollar Change 2016/2015	Percent Change 2016/2015
				(dollars in millions)			
Revenue:							
Subscription and maintenance	$ 3,279	$ 3,317	$ 3,560	$ (38)	(1)%	$ (243)	(7)%
Professional services	301	326	351	(25)	(8)%	(25)	(7)%
Software fees and other	456	382	351	74	19 %	31	9 %
Total revenue	$ 4,036	$ 4,025	$ 4,262	$ 11	— %	$ (237)	(6)%
Expenses:							
Costs of licensing and maintenance	$ 273	$ 283	$ 297	$ (10)	(4)%	$ (14)	(5)%
Cost of professional services	300	300	338	—	— %	(38)	(11)%
Amortization of capitalized software costs	243	256	273	(13)	(5)%	(17)	(6)%
Selling and marketing	1,028	1,006	1,060	22	2 %	(54)	(5)%
General and administrative	375	367	377	8	2 %	(10)	(3)%
Product development and enhancements	586	560	603	26	5 %	(43)	(7)%
Depreciation and amortization of other intangible assets	77	106	129	(29)	(27)%	(23)	(18)%
Other expenses, net	19	12	23	7	58 %	(11)	(48)%
Total expense before interest and income taxes	$ 2,901	$ 2,890	$ 3,100	$ 11	— %	$ (210)	(7)%
Income from continuing operations before interest and income taxes	$ 1,135	$ 1,135	$ 1,162	$ —	— %	$ (27)	(2)%
Interest expense, net	62	51	47	11	22 %	4	9 %
Income from continuing operations before income taxes	$ 1,073	$ 1,084	$ 1,115	$ (11)	(1)%	$ (31)	(3)%
Income tax expense	298	315	305	(17)	(5)%	10	3 %
Income from continuing operations	$ 775	$ 769	$ 810	$ 6	1 %	$ (41)	(5)%

The following table sets forth, for the fiscal years indicated, the percentage of total revenue presented by the items in the accompanying Consolidated Statements of Operations:

	Percentage of Total Revenue for the Year Ended March 31,		
	2017	2016	2015
Revenue:			
Subscription and maintenance	81%	82%	84%
Professional services	8	8	8
Software fees and other	11	10	8
Total revenue	100%	100%	100%
Expenses:			
Costs of licensing and maintenance	7%	7%	7%
Cost of professional services	7	7	8
Amortization of capitalized software costs	6	6	6
Selling and marketing	25	25	25
General and administrative	9	9	9
Product development and enhancements	15	14	14
Depreciation and amortization of other intangible assets	2	3	3
Other expenses, net	—	—	1
Total expenses before interest and income taxes	72%	72%	73%
Income from continuing operations before interest and income taxes	28%	28%	27%
Interest expense, net	2	1	1
Income from continuing operations before income taxes	27%	27%	26%
Income tax expense	7	8	7
Income from continuing operations	19%	19%	19%

Note: Amounts may not add to their respective totals due to rounding.

Revenue

Total Revenue

Total revenue increased in fiscal 2017 compared with fiscal 2016 primarily as a result of an increase in software fees and other revenue, partially offset by decreases in subscription and maintenance revenue and professional services revenue as described below. There was an unfavorable foreign exchange effect of $19 million for fiscal 2017 .

In general, we treat acquired technologies as organic in the quarter of their one year anniversary date. Rally Software Development Corp. (Rally) and Xceedium, Inc. (Xceedium) were acquired during the second quarter of fiscal 2016 and, as such, were treated as organic in the second quarter of fiscal 2017. During the first quarter of fiscal 2017, total revenue included $35 million from our Rally and Xceedium acquisitions. During the fourth quarter of fiscal 2017, we acquired Automic Holding GmbH (Automic) and, as a result, total revenue included $25 million from this acquisition. In addition, during the fourth quarter of fiscal 2017, we acquired Veracode, Inc. (Veracode). Since Veracode was acquired on the last day of our fiscal year, there was no revenue reflected within our Statement of Operations for fiscal 2017.

Total revenue decreased in fiscal 2016 compared with fiscal 2015 primarily as a result of an unfavorable foreign exchange effect of $212 million during fiscal 2016 and, to a lesser extent, a decrease in subscription and maintenance revenue as described below. The decreases were partially offset by an increase in revenue during fiscal 2016 of $97 million associated with our second quarter fiscal 2016 acquisitions, primarily reflected within software fees and other revenue.

We expect revenue for fiscal 2018 to increase in a percentage in the low single digits. Excluding an expected unfavorable foreign exchange effect, we expect revenue for fiscal 2018 to increase in a percentage in the low to mid-single digits range.

Subscription and Maintenance

The decrease in subscription and maintenance revenue for fiscal 2017 compared with fiscal 2016 was primarily attributable to a decrease in Mainframe Solutions revenue (refer to "Performance of Segments" below) as well as Enterprise Solutions revenue recognized on a ratable basis. There was an unfavorable foreign exchange effect of $14 million for fiscal 2017 .

The decrease in subscription and maintenance revenue for fiscal 2016 compared with fiscal 2015 was primarily attributable to an unfavorable foreign exchange effect of $183 million for fiscal 2016 and, to a lesser extent, a decrease in Mainframe Solutions revenue.

Professional Services

Professional services revenue primarily includes revenue derived from product implementation, consulting, customer education and customer training services. Professional services revenue for fiscal 2017 decreased compared with fiscal 2016 primarily due to a decline in professional services engagements from prior periods. This decline in professional services engagements is a result of several factors including our products being easier to install and manage, an increase in the use of partners for services engagements and the completion of non-strategic projects during previous periods. For the long term, we expect new versions of our on-premise software to be easier to implement and a higher percentage of our business to shift to a SaaS-based model, which could potentially reduce the demand for our professional services engagements.

Professional services revenue for fiscal 2016 decreased compared with fiscal 2015 primarily due to an unfavorable foreign exchange effect of $16 million for fiscal 2016 and, to a lesser extent, a decline in professional services engagements in the first half of fiscal 2016 and fiscal 2015. For fiscal 2016, professional services revenue includes revenue of $18 million from our second quarter fiscal 2016 acquisition of Rally.

Software Fees and Other

Software fees and other revenue consists of revenue that is recognized on an upfront basis and also includes our SaaS revenue. Upfront revenue includes revenue associated with enterprise solutions products sold on an upfront basis directly by our sales force and through transactions with distributors and volume partners, value-added resellers and exclusive representatives (sometimes referred to as our “indirect” or “channel” revenue). Our SaaS revenue is recognized as the services are provided, generally ratably over the term of the SaaS arrangement, rather than upfront.

Software fees and other revenue for fiscal 2017 increased compared with fiscal 2016 primarily due to an increase in SaaS revenue mainly from our CA Agile Central products (acquired from Rally), and, to a lesser extent, an increase in sales of our enterprise solutions products recognized on an upfront basis, which included revenue from our fourth quarter acquisition of Automic. Software fees and other revenue for fiscal 2017 included $36 million of revenue from acquired technologies.

Software fees and other revenue for fiscal 2016 increased compared with fiscal 2015 due to an increase of $70 million from revenue associated with our second quarter fiscal 2016 acquisitions, mainly due to SaaS revenue from Rally. This increase was partially offset by an unfavorable foreign exchange effect of $13 million for fiscal 2016 and a decrease in the percentage of enterprise solutions product sales recognized on an upfront basis during the first half of fiscal 2016.

Total Revenue by Geography

The following table presents the amount of revenue earned from sales to unaffiliated customers in the United States and international regions and corresponding percentage changes for fiscal 2017 , 2016 and 2015 :

	Fiscal 2017 Compared With Fiscal 2016					Fiscal 2016 Compared With Fiscal 2015				
	(dollars in millions)									
	2017	% Of Total	2016	% Of Total	% Change	2016	% Of Total	2015	% Of Total	% Change
United States	$ 2,586	64%	$ 2,585	64%	—%	$ 2,585	64%	$ 2,615	61%	(1)%
International	1,450	36%	1,440	36%	1%	1,440	36%	1,647	39%	(13)%
Total	$ 4,036	100%	$ 4,025	100%	—%	$ 4,025	100%	$ 4,262	100%	(6)%

Revenue in the United States for fiscal 2017 was generally consistent compared with fiscal 2016 primarily due to an increase in software fees and other revenue, offset by decreases in subscription and maintenance revenue and professional services revenue. International revenue increased by $10 million , or 1% , for fiscal 2017 compared with fiscal 2016 primarily due to an increase in software fees and other revenue in the Asia Pacific Japan and Latin America regions. There was an unfavorable foreign exchange effect of $19 million for fiscal 2017 .

Revenue in the United States decreased by $30 million, or 1%, for fiscal 2016 compared with fiscal 2015 primarily due to a decrease in subscription and maintenance revenue and professional services revenue, as described above, partially offset by revenue associated with our second quarter fiscal 2016 acquisitions. International revenue decreased by $207 million, or 13%, for fiscal 2016 compared with fiscal 2015 due to an unfavorable foreign exchange effect of $212 million.

Price changes do not have a material effect on revenue in the period they become effective as a result of our ratable subscription model.

Expenses

Operating Expenses

Operating expenses for fiscal 2017 increased compared with fiscal 2016 primarily as a result of fiscal 2017 having four quarters of expenses associated with our fiscal 2016 acquisitions of Rally and Xceedium, while fiscal 2016 only included three quarters of expenses. In addition, fiscal 2017 included additional expenses from our fourth quarter acquisition of Automic. These increases were partially offset by a favorable foreign exchange effect.

In general, we treat acquired technologies as organic in the quarter of their one year anniversary date. Rally and Xceedium were acquired during the second quarter of fiscal 2016 and, as such, were treated as organic in the second quarter of fiscal 2017. During the first quarter of fiscal 2017, total operating expenses included expenses of $40 million from our Rally and Xceedium acquisitions. During the fourth quarter of fiscal 2017, we acquired Automic, which contributed $35 million to total operating expenses, inclusive of one-time transaction costs. In addition, during the fourth quarter of fiscal 2017, we acquired Veracode. Since Veracode was acquired on the last day of our fiscal year, there were no operating expenses reflected within our Statement of Operations for fiscal 2017.

Operating expenses for fiscal 2016 decreased compared with fiscal 2015 primarily as a result of a decrease in non-acquisition personnel costs of $129 million and a favorable effect from foreign exchange of $69 million during fiscal 2016, which includes a year-over-year change in our foreign exchange derivative contracts reflected within other expenses, net. These decreases were partially offset by an increase in costs from our second quarter fiscal 2016 acquisitions of $149 million.

Costs of Licensing and Maintenance

Costs of licensing and maintenance include technical support, royalties, SaaS, and other manufacturing and distribution costs. Costs of licensing and maintenance for fiscal 2017 decreased compared with fiscal 2016 primarily due to a decrease in personnel-related costs as a result of lower headcount and a decrease in external royalties, partially offset by costs associated with our CA Agile Central products (acquired from Rally).

Costs of licensing and maintenance for fiscal 2016 decreased compared with fiscal 2015 primarily due to a favorable foreign exchange effect of $9 million and a decrease in royalties, which were partially offset by an increase in costs from our second quarter fiscal 2016 acquisitions of $9 million.

Cost of Professional Services

Cost of professional services consists primarily of our personnel-related costs associated with providing professional services and training to customers. Cost of professional services for fiscal 2017 was consistent compared with fiscal 2016 as a result of lower costs due to the decline in professional services engagements, offset by an increase in personnel-related costs as a result of severance actions during fiscal 2017. Operating margin for professional services decreased to 0% for fiscal 2017 compared with 8% for fiscal 2016 . The decrease in operating margin for professional services was primarily attributable to an overall decline in professional services revenue, an increase in personnel-related costs as a result of severance actions during fiscal 2017 and an increase in costs as a result of our recent acquisitions.

Cost of professional services for fiscal 2016 decreased compared with fiscal 2015 primarily due to a decrease in non-acquisition personnel-related costs of $25 million, a decrease in external consulting costs of $14 million and a favorable foreign exchange effect of $14 million, partially offset by an increase in expenses of $18 million for fiscal 2016 from our second quarter fiscal 2016 acquisitions. Operating margin for professional services increased to 8% for fiscal 2016 compared with 4% for fiscal 2015. The increase in operating margin for professional services was primarily attributable to the decrease in non-acquisition personnel-related costs as mentioned above.

Operating margin for professional services does not include certain additional direct costs that are included within the Services segment (refer to “Performance of Segments” below). Expenses for the Services segment consist of cost of professional services and other direct costs included within selling and marketing and general and administrative expenses.

Amortization of Capitalized Software Costs

Amortization of capitalized software costs consists of the amortization of both purchased software and internally generated capitalized software development costs. Internally generated capitalized software development costs relate to new products and significant enhancements to existing software products that have reached the technological feasibility stage.

We evaluate the useful lives and recoverability of capitalized software and other intangible assets when events or changes in circumstances indicate that an impairment may exist. These evaluations require complex assumptions about key factors such as future customer demand, technology trends and the impact of those factors on the technology we acquire and develop for our products. Impairments or revisions to useful lives could result from the use of alternative assumptions that reflect reasonably possible outcomes related to future customer demand or technology trends for assets within the Enterprise Solutions segment.

We have continued to leverage Agile development methodologies, which are characterized by a more dynamic development process with more frequent revisions to a product release’s features and functions as the software is being developed. As a result, capitalization is commenced much later in the development life cycle. As such, we have not capitalized a significant amount of internally developed software costs since fiscal 2014, resulting in a decrease in amortization expense year-over-year.

The decrease in amortization of capitalized software costs for fiscal 2017 compared with fiscal 2016 was primarily due to a decrease in amortization of our internally developed software products, partially offset by an increase in amortization of capitalized software costs related to our Rally, Xceedium and Automic acquisitions.

The decrease in amortization of capitalized software costs for fiscal 2016 compared with fiscal 2015 was primarily due to a decrease in amortization expense from capitalized software costs that became fully amortized in recent periods, partially offset by amortization of capitalized software costs related to our second quarter fiscal 2016 acquisitions. In addition, during fiscal 2015, amortization expenses included an impairment charge of $21 million (refer to Note 6, “Long Lived Assets,” in the Notes to the Consolidated Financial Statements for additional information).

Selling and Marketing

Selling and marketing expenses include the costs relating to our sales force, channel partners, corporate and business marketing and customer training programs. For fiscal 2017 , the increase in selling and marketing expenses compared with fiscal 2016 was primarily attributable to $27 million of costs in connection with our Rally, Xceedium and Automic acquisitions, which were mainly personnel-related, and, to a lesser extent, an increase in commissions expense from our new sales growth during fiscal 2017. These increases were partially offset by a decrease in non-acquisition personnel-related costs of $12 million as a result of a lower headcount.

For fiscal 2016, the decrease in selling and marketing expenses compared with fiscal 2015 was primarily attributable to a favorable foreign exchange effect of $47 million and a decrease in non-acquisition personnel-related costs of $44 million as a result of a lower headcount, partially offset by costs of $54 million from our second quarter fiscal 2016 acquisitions.

General and Administrative

General and administrative expenses include the costs of corporate functions, including our executive leadership and administration groups, finance, legal, human resources, corporate communications and other costs such as provisions for doubtful accounts. For fiscal 2017 , general and administrative expenses increased compared with fiscal 2016 primarily due to an increase in non-acquisition related costs.

For fiscal 2016, general and administrative expenses decreased compared with fiscal 2015 primarily due to a favorable foreign exchange effect of $22 million and a decrease in non-acquisition personnel-related costs of $15 million, partially offset by $36 million of costs associated with our second quarter fiscal 2016 acquisitions.

Product Development and Enhancements

For fiscal 2017 and fiscal 2016 , product development and enhancements expense represented 15% and 14% , respectively, of total revenue. The increase in product development and enhancements expenses was primarily attributable to an increase in personnel-related costs, which includes the costs from our Rally, Xceedium and Automic acquisitions.

For fiscal 2016 and fiscal 2015, product development and enhancements expenses represented 14% of total revenue. The decrease in product development and enhancements expenses was primarily attributable to the decrease in non-acquisition personnel-related costs of $45 million as a result of a lower headcount and a favorable foreign exchange effect of $12 million, partially offset by an increase in costs of $32 million from our second quarter fiscal 2016 acquisitions.

Depreciation and Amortization of Other Intangible Assets

The decrease in depreciation and amortization of other intangible assets for fiscal 2017 compared with fiscal 2016 was primarily due to a decrease in amortization expense associated with other intangible assets that became fully amortized in recent periods and, to a lesser extent, a decrease in property and equipment depreciation expense. These decreases were partially offset by an increase in amortization of other intangible assets from our our Rally, Xceedium and Automic acquisitions.

The decrease in depreciation and amortization of other intangible assets for fiscal 2016 compared with fiscal 2015 was primarily due to a decrease in amortization expense associated with other intangible assets that became fully amortized in recent periods and, to a lesser extent, a decrease in property and equipment depreciation expense.

Other Expenses, Net

The summary of other expenses, net was as follows:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Fiscal 2014 Plan	$ —	$ (1)	$ 17
Legal settlements	24	(13)	15
Losses (gains) from foreign exchange derivative contracts	4	6	(31)
(Gains) losses from foreign exchange rate fluctuations	(6)	20	17
Other miscellaneous items	(3)	—	5
Total	$ 19	$ 12	$ 23

For fiscal 2017, other expenses, net included a $32 million legal settlement expense, which related to formal agreements for $49 million to settle the litigation referred to in Note 11, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements. The full payments for the formal settlement agreements were made in the fourth quarter of fiscal 2017.

For fiscal 2016, other expenses, net included a foreign currency transaction loss of $11 million relating to the remeasurement of monetary assets and liabilities of our Argentinian subsidiary. As of March 31, 2017, our remaining net monetary assets in Argentina are not considered material to our overall financial statement presentation.

For fiscal 2015, other expenses, net included a foreign currency transaction loss of $14 million relating to the remeasurement of monetary assets and liabilities of our Venezuelan subsidiary. As of March 31, 2017, our remaining net monetary assets in Venezuela are not considered material to our overall financial statement presentation.

Interest Expense, Net

Interest expense, net for fiscal 2017 increased compared with fiscal 2016 primarily due to fiscal 2017 including four quarters of interest expense associated with our 3.600% Senior Notes due August 2020 issued during the second quarter of fiscal 2016 and our term loan agreement entered into during the third quarter of fiscal 2016.

Interest expense, net for fiscal 2016 increased compared with fiscal 2015 primarily due to the interest associated with the borrowings of $400 million from our 3.600% Senior Notes due August 2020 and $300 million from our term loan with a maturity date of April 20, 2022, partially offset by the maturity of the 6.125% Senior Notes due December 2014 during the third quarter of fiscal 2015.

Refer to the “Liquidity and Capital Resources” section of this MD&A and Note 8, “Debt,” in the Notes to the Consolidated Financial Statements for additional information.

Income Taxes

Income tax expense for fiscal 2017 , 2016 and 2015 was $298 million , $315 million and $305 million , respectively. Our effective tax rate was 27.8% , 29.1% and 27.4% , for fiscal 2017 , 2016 and 2015 , respectively. We expect a full-year effective tax rate of between 28% and 29% for fiscal 2018.

The decrease in the effective tax rate for fiscal 2017 , compared with fiscal 2016 , resulted primarily from reductions in valuation allowances for certain jurisdictions due to changes in our judgment of estimated future taxable income.

The increase in the effective tax rate for fiscal 2016, compared with fiscal 2015, resulted primarily from the favorable resolutions of uncertain tax positions in fiscal 2015 relating to the completion of the examination of our U.S. federal income tax returns for the tax years ended March 31, 2011 and 2012.

No provision has been made for U.S. federal income taxes on $3,202 million and $2,987 million at March 31, 2017 and 2016 , respectively, of unremitted earnings of our foreign subsidiaries since we plan to permanently reinvest all such earnings outside the United States. It is not practicable to determine the amount of tax associated with such unremitted earnings.

In November 2013, we received a tax assessment from the Brazilian tax authority relating to fiscal years 2008 - 2013. The assessment included a report of findings in connection with the examination. We disagree with the proposed adjustments in the assessment and intend to vigorously dispute these matters through applicable administrative and judicial procedures, as appropriate. As the result of decisions at the Administrative Court of Appeals, total potential liability from the tax assessment at March 31, 2017 was 180 million Brazilian reais (which translated to $58 million at March 31, 2017), including interest and penalties accumulated through March 31, 2017. While we believe that we will ultimately prevail, if the assessment is not resolved in our favor, it would have an impact on our consolidated financial position, cash flows and results of operations.

We do not believe it is reasonably possible that the amount of unrecognized tax benefits will significantly increase or decrease within the next 12 months.

Refer to Note 15, “Income Taxes,” in the Notes to the Consolidated Financial Statements for additional information.

Discontinued Operations

In the fourth quarter of fiscal 2016, we sold CA ERwin Data Modeling solution assets (ERwin) for $50 million and recognized a gain on disposal of $4 million , including tax expense of $24 million . The effective tax rate on the disposal was unfavorably affected by non-deductible goodwill of $36 million .

In the second quarter of fiscal 2015, we sold CA arcserve data protection solution assets (arcserve) for $170 million and recognized a gain on disposal of $20 million , including tax expense of $77 million . The effective tax rate on the disposal was unfavorably affected by non-deductible goodwill of $109 million .

The divestitures of ERwin and arcserve resulted from an effort to rationalize our product portfolio within the Enterprise Solutions segment. The results of these business operations were presented in income from discontinued operations for fiscal 2016 and fiscal 2015.

Refer to Note 3, “Divestitures,” in the Notes to the Consolidated Financial Statements for additional information.

Performance of Segments

In accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 280, *Segment Reporting* , we disaggregate our operations into Mainframe Solutions, Enterprise Solutions and Services segments, which are utilized by our Chief Operating Decision Maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources.

Our Mainframe Solutions and Enterprise Solutions segments are comprised of our software business organized by the nature of our software offerings and the platforms on which our products operate. Our Mainframe Solutions segment products help customers and partners transform mainframe management, gain more value from existing technology and extend mainframe capabilities. Our Mainframe Solutions segment consists of various product offerings, including: DevOps, Operations Intelligence and Automation and Security & Compliance. Our Enterprise Solutions segment includes products that are designed for distributed and cloud computing environments and run on industry standard servers. Our Enterprise Solutions segment consists of various product offerings, including: Agile Management, DevOps and Security. Our Services segment is comprised of product implementation, consulting, customer education and customer training services, including those directly related to our Mainframe Solutions and Enterprise Solutions software that we sell to our customers.

We regularly enter into a single arrangement with a customer that includes mainframe solutions, enterprise solutions and services. The amount of contract revenue assigned to operating segments is generally based on the manner in which the proposal is made to the customer. The software product revenue assigned to our Mainframe Solutions and Enterprise Solutions segments is based on either: (1) a list price allocation method (which allocates a discount in the total contract price to the individual products in proportion to the list price of the products); (2) allocations included within internal contract approval documents; or (3) the value for individual software products as stated in the customer contract. The price for the implementation, consulting, education and training services is separately stated in the contract and these amounts of contract revenue are assigned to our Services segment. The contract value assigned to each operating segment is then recognized in a manner consistent with the revenue recognition policies we apply to the customer contract for purposes of preparing our Consolidated Financial Statements.

Segment expenses include costs that are controllable by segment managers (*i.e.* , direct costs) and, in the case of our Mainframe Solutions and Enterprise Solutions segments, an allocation of shared and indirect costs (*i.e.* , allocated costs). Segment-specific direct costs include a portion of selling and marketing costs, licensing and maintenance costs, product development costs and general and administrative costs. Allocated segment costs primarily include indirect and non-segment-specific direct selling and marketing costs and general and administrative costs that are not directly attributable to a specific segment. The basis for allocating shared and indirect costs between our Mainframe Solutions and Enterprise Solutions segments is dependent on the nature of the cost being allocated and is either in proportion to segment revenues or in proportion to the related direct cost category. Expenses for our Services segment consist of cost of professional services and other direct costs included within selling and marketing and general and administrative expenses. There are no allocated or indirect costs for our Services segment.

Segment expenses do not include amortization of purchased software, amortization of other intangible assets, amortization of internally developed software products, share-based compensation expense, approved severance and facility actions by the Board and other miscellaneous costs. A measure of segment assets is not currently provided to our Chief Executive Officer and has therefore not been disclosed.

Segment financial information for fiscal 2017 , 2016 and 2015 is as follows:

Mainframe Solutions	Fiscal 2017	Fiscal 2016	Fiscal 2015
Revenue	$ 2,182	$ 2,215	$ 2,392
Expenses	851	854	970
Segment profit	$ 1,331	$ 1,361	$ 1,422
Segment operating margin	61%	61%	59%

Mainframe Solutions revenue for fiscal 2017 decreased compared with fiscal 2016 primarily due to insufficient revenue from new sales to offset the decline in revenue contribution from renewals. Mainframe Solutions operating margin for fiscal 2017 was consistent compared with the year-ago period.

Mainframe Solutions revenue for fiscal 2016 decreased compared with fiscal 2015 primarily due to an unfavorable foreign exchange effect of $125 million and, to a lesser extent, insufficient revenue from new sales to offset the decline in revenue contribution from renewals. Mainframe Solutions operating margin for fiscal 2016 increased compared with the year-ago period primarily due to a decrease in personnel-related costs.

Enterprise Solutions	Fiscal 2017	Fiscal 2016	Fiscal 2015
Revenue	$ 1,553	$ 1,484	$ 1,519
Expenses	1,378	1,337	1,353
Segment profit	$ 175	$ 147	$ 166
Segment operating margin	11%	10%	11%

Enterprise Solutions revenue for fiscal 2017 increased compared with fiscal 2016 primarily due to an increase in software fees and other revenue as a result of an increase in SaaS revenue and, to a lesser extent, an increase in sales of our enterprise solutions products recognized on an upfront basis, which included revenue from our fourth quarter acquisition of Automic. Enterprise Solutions operating margin for fiscal 2017 increased compared with the year-ago period primarily due to an increase in revenue and, to a lesser extent, a decrease in one-time acquisition-related transaction costs compared with the year-ago period.

Enterprise Solutions revenue for fiscal 2016 decreased compared with fiscal 2015 due to an unfavorable foreign exchange effect of $71 million. Excluding an unfavorable foreign exchange effect, Enterprise Solutions revenue increased as a result of additional revenue associated with our second quarter fiscal 2016 acquisitions. Enterprise Solutions operating margin for fiscal 2016 decreased compared with the year-ago period primarily due to costs from our second quarter fiscal 2016 acquisitions of Rally and Xceedium, partially offset by a decrease in non-acquisition personnel-related costs.

Services	Fiscal 2017	Fiscal 2016	Fiscal 2015
Revenue	$ 301	$ 326	$ 351
Expenses	302	303	342
Segment profit	$ (1)	$ 23	$ 9
Segment operating margin	— %	7%	3%

Services segment expenses consist of cost of professional services and other direct costs included within selling and marketing and general and administrative expenses that are not included within the “Cost of professional services” line item of our Consolidated Statements of Operations.

Services revenue for fiscal 2017 decreased compared with fiscal 2016 primarily due to a decline in professional services engagements from prior periods. This decline in professional services engagements was a result of several factors including our products being easier to install and manage, an increase in customers’ use of partners for services engagements and the completion of non-strategic projects during previous periods. For the long term, we expect new versions of our on-premise software to be easier to implement and a higher percentage of our business to shift to a SaaS-based model, which could potentially reduce the demand for our professional services engagements. Operating margin for Services decreased to 0% for fiscal 2017 compared with 7% for fiscal 2016 primarily due to an overall decline in professional services revenue and an increase in personnel-related costs as a result of severance actions during fiscal 2017.

Services revenue for fiscal 2016 decreased compared with fiscal 2015 primarily due to an unfavorable foreign exchange effect of $16 million and, to a lesser extent, a decline in professional services engagements in the first half of fiscal 2016 and during fiscal 2015, partially offset by an increase in services revenue of $18 million from our second quarter fiscal 2016 acquisition of Rally. Operating margin for Services increased to 7% for fiscal 2016 compared with 3% for fiscal 2015 primarily due to a decrease in personnel-related costs as a result of our prior period severance actions and a decrease in external consulting costs.

Refer to Note 17, “Segment and Geographic Information,” in the Notes to the Consolidated Financial Statements for additional information.

Bookings - Fiscal 2017 Compared with Fiscal 2016

Total Bookings: For fiscal 2017 and fiscal 2016 , total bookings were $4,763 million and $4,247 million , respectively. The increase in total bookings was primarily due to an increase in renewals and an increase in new product sales.

Total bookings for fiscal 2017 included the replacement and extension of a large system integrator transaction that was scheduled to expire in fiscal 2018 that occurred during the first quarter of fiscal 2017. The large system integrator transaction provided an incremental contract value in excess of $475 million and extended the term of the replaced agreement for an additional five years. Total bookings for fiscal 2016 included a renewal with a large system integrator in excess of $500 million for a term greater than five years that occurred during the second quarter of fiscal 2016.

Subscription and Maintenance Bookings: For fiscal 2017 and fiscal 2016 , subscription and maintenance bookings were $3,918 million and $3,489 million , respectively. The increase in subscription and maintenance bookings was primarily attributable to an increase in mainframe solutions renewals.

Renewal Bookings: For fiscal 2017 , renewal bookings increased by a percentage in the mid-teens compared with fiscal 2016 primarily due to an increase in mainframe solutions renewals and, to a lesser extent, an increase in enterprise solutions renewals. The increase in mainframe solutions renewals was primarily due to an increase in the renewal portfolio for mainframe solutions products in fiscal 2017 and, to a lesser extent, the aforementioned renewal with a large system integrator in excess of $475 million that occurred during the first quarter of fiscal 2017, which included a large amount of mainframe solutions products. The increase in renewal bookings was slightly below our third quarter fiscal 2017 expectations of an increase in a percentage in the high teens as a result of a lower level of transactions renewing prior to their natural expiration date compared to historical levels. The increase in enterprise solutions renewals was primarily attributable to renewals from our Rally, Xceedium and Automic acquisitions. For the fourth quarter of fiscal 2017 , our percentage renewal yield was in the low 90% range. The average of the renewal yield percentage for the four quarters of fiscal 2017 was above 90%.

- *License Agreements over $10 million:* During fiscal 2017 , we executed a total of 72 license agreements with incremental contract values in excess of $10 million each, for an aggregate contract value of $2,450 million . During fiscal 2016 , we executed a total of 48 license agreements with incremental contract values in excess of $10 million each, for an aggregate contract value of $1,965 million .
- *Annualized Subscription and Maintenance Bookings and Weighted Average Subscription and Maintenance License Agreement Duration in Years:* Annualized subscription and maintenance bookings increased from $940 million in fiscal 2016 to $1,023 million in fiscal 2017 primarily due to the increase in subscription and maintenance bookings during fiscal 2017 compared with fiscal 2016. The weighted average subscription and maintenance license agreement duration in years increased from 3.71 in fiscal 2016 to 3.83 in fiscal 2017 . Although each contract is subject to terms negotiated by the respective parties, we do not expect the weighted average subscription and maintenance agreement duration in years to change materially from historical levels for end-user contracts.
- *Full Year Fiscal 2018 Outlook:* We expect fiscal 2018 renewals to decrease by a percentage in the high teens compared with fiscal 2017 primarily due to the aforementioned renewal with a large system integrator that occurred during the first quarter of fiscal 2017.

Total New Product Sales: Within total bookings, total new product sales increased by approximately 10% for fiscal 2017 compared with fiscal 2016 primarily due to an increase in Enterprise Solutions new product sales and, to a lesser extent, an increase in Mainframe Solutions new product sales. Excluding acquisitions, total new product sales increased by a percentage in the mid-single digits for fiscal 2017 compared with fiscal 2016 .

- *Mainframe Solutions New Product Sales:* For fiscal 2017 , Mainframe Solutions new product sales (which includes sales of mainframe products and mainframe capacity) increased by a percentage in the mid-teens compared with fiscal 2016 primarily due to an increase in sales of mainframe products, partially offset by a decrease in sales of mainframe capacity. Overall, we expect our mainframe revenue growth to decline in a low single digit range over the medium term, which we believe is in line with the mainframe market.
- *Enterprise Solutions New Product Sales:* For fiscal 2017 , Enterprise Solutions new product sales increased by a percentage in the high single digits compared with fiscal 2016 primarily due to new product sales from our Rally, Xceedium and Automic acquisitions. Excluding acquisitions, Enterprise Solutions new product sales decreased by a percentage in the low single digits compared with fiscal 2016. Excluding acquisitions and an unfavorable foreign exchange effect, Enterprise Solutions new product sales were consistent compared with fiscal 2016. Enterprise Solutions new product sales performance was negatively affected by certain products that are more mature and not growing, but which generate positive segment operating margin and cash flows from operations.

Total Bookings by Geography: Total bookings in fiscal 2017 increased in the United States and all international regions compared with fiscal 2016 primarily due to an increase in renewals.

New Product Sales by Geography: Total new product sales in fiscal 2017 increased primarily in the United States and, to a lesser extent, an increase in the Europe, Middle East and Africa and Asia Pacific Japan regions compared with fiscal 2016 . These increases were partially offset by a decrease in the Latin America region compared with fiscal 2016. Total new product sales increased in the United States primarily due to a higher level of new sales attached to our renewal portfolio. Total new product sales decreased in the Latin America region primarily due to continued macro-economic challenges in the region.

Bookings - Fiscal 2016 Compared with Fiscal 2015

Total Bookings: For fiscal 2016 and fiscal 2015, total bookings were $4,247 million and $3,609 million, respectively. The increase in bookings was primarily due to an increase in renewal bookings, including the renewal with a large system integrator in excess of $500 million that occurred during the second quarter of fiscal 2016, and bookings relating to our second quarter fiscal 2016 acquisitions. This was partially offset by an unfavorable foreign exchange effect of $133 million.

Subscription and Maintenance Bookings: For fiscal 2016 and fiscal 2015, subscription and maintenance bookings were $3,489 million and $2,942 million, respectively. The increase in subscription and maintenance bookings was primarily attributable to an increase in renewal bookings, including the aforementioned renewal with a large system integrator.

Renewal Bookings:

- *Including the Large System Integrator:* For fiscal 2016, renewal bookings increased by a percentage in the mid-twenties compared with fiscal 2015 primarily due to the aforementioned renewal with a large system integrator. Excluding an unfavorable foreign exchange effect, renewal bookings for fiscal 2016 increased by approximately 30% compared with the year-ago period. For the fourth quarter of fiscal 2016, our percentage renewal yield was in the mid-90% range. The average of the renewal yield percentage for the four quarters of fiscal 2016 was slightly above 90%.
- *Excluding the Large System Integrator:* Excluding the large system integrator renewal, renewal bookings increased by a percentage in the low single digits for fiscal 2016 compared with fiscal 2015 primarily due to the increase in renewal bookings relating to our second quarter fiscal 2016 acquisitions. Excluding an unfavorable foreign exchange effect, renewal bookings for fiscal 2016 increased by a percentage in the high single digits compared with the year-ago period.
- *License Agreements over $10 million:* During fiscal 2016, we executed a total of 48 license agreements with incremental contract values in excess of $10 million each, for an aggregate contract value of $1,965 million. During fiscal 2015, we executed a total of 51 license agreements with incremental contract values in excess of $10 million each, for an aggregate contract value of $1,448 million.
- *Annualized Subscription and Maintenance Bookings and Weighted Average Subscription and Maintenance License Agreement Duration in Years:* Annualized subscription and maintenance bookings increased from $908 million in fiscal 2015 to $940 million in fiscal 2016 primarily a result of the aforementioned renewal with a large system integrator. The weighted average subscription and maintenance license agreement duration in years increased from 3.24 in fiscal 2015 to 3.71 in fiscal 2016 primarily due to the aforementioned renewal with a large system integrator which had a term greater than 5 years.

Total New Product Sales: Within total bookings, total new product sales increased by a percentage in the mid-single digits for fiscal 2016 compared with fiscal 2015. Excluding an unfavorable foreign exchange effect, total new product sales increased by a percentage in the low teens compared with fiscal 2015. These increases were primarily due to the new sales in connection with our second quarter fiscal 2016 acquisitions and renewals, including the aforementioned renewal with a large system integrator. Excluding our second quarter fiscal 2016 acquisitions, total new product sales decreased by a percentage in the low single digits for fiscal 2016 compared with the year-ago period. Excluding both an unfavorable foreign exchange effect and second quarter fiscal 2016 acquisitions, total new product sales increased by a percentage in the mid-single digits for fiscal 2016 compared with the year-ago period.

- *Mainframe Solutions New Product Sales:* For fiscal 2016, Mainframe Solutions new product sales, including capacity, increased by a percentage in the high teens compared with fiscal 2015 primarily due to the aforementioned renewal with a large system integrator and new product sales in connection with other renewals. Excluding an unfavorable foreign exchange effect, Mainframe Solutions new product sales increased by a percentage in the mid-twenties compared with fiscal 2015.

- *Enterprise Solutions New Product Sales:* For fiscal 2016, Enterprise Solutions new product sales increased by a percentage in the low single digits compared with fiscal 2015 primarily as a result of Enterprise Solutions new product sales associated with our second quarter fiscal 2016 acquisitions. Excluding an unfavorable foreign exchange effect, Enterprise Solutions new product sales increased by a percentage in the high single digits compared with fiscal 2015. Excluding our second quarter fiscal 2016 acquisitions, Enterprise Solutions new product sales decreased by a percentage in the high single digits for fiscal 2016 compared with the year-ago period. Excluding both an unfavorable foreign exchange effect and our second quarter fiscal 2016 acquisitions, Enterprise Solutions new product sales decreased by a percentage in the low single digits for fiscal 2016 compared with the year-ago period. Enterprise Solutions new product sales performance was negatively affected by certain products that are more mature and not growing. However, these products positively affect segment operating margin as well as cash flow from operations.

Total Bookings by Geography: Total bookings in fiscal 2016 compared with fiscal 2015 increased in the United States and, to a lesser extent, increased in the Europe, Middle East and Africa region. The increase in the United States was primarily due to the aforementioned renewal with a large system integrator and bookings from our second quarter 2016 acquisitions. Total bookings in fiscal 2016 compared with the year-ago period decreased in the Asia Pacific Japan and Latin America regions.

New Product Sales by Geography: Total new product sales in fiscal 2016 compared with fiscal 2015 increased in the United States and the Latin America region. The increase in the United States was primarily due to new product sales from our second quarter 2016 acquisitions and new product sales associated with the aforementioned renewal with a large system integrator. Total new product sales decreased in the Asia Pacific Japan and Europe, Middle East and Africa regions.

Selected Quarterly Information

	Fiscal 2017 Quarter Ended				
	June 30	September 30	December 31	March 31	Total
	(dollars in millions, except per share amounts)				
Revenue	$ 999	$ 1,018	$ 1,007	$ 1,012	$ 4,036
Percentage of annual revenue	25%	25%	25%	25%	100%
Costs of licensing and maintenance	$ 68	$ 66	$ 68	$ 71	$ 273
Cost of professional services	$ 75	$ 73	$ 74	$ 78	$ 300
Amortization of capitalized software costs	$ 66	$ 59	$ 57	$ 61	$ 243
Income from continuing operations	$ 198	$ 212	$ 208	$ 157	$ 775
Basic income per common share from continuing operations	$ 0.47	$ 0.50	$ 0.50	$ 0.38	$ 1.85
Diluted income per common share from continuing operations	$ 0.47	$ 0.50	$ 0.50	$ 0.38	$ 1.85

	Fiscal 2016 Quarter Ended				
	June 30	September 30	December 31	March 31	Total
	(dollars in millions, except per share amounts)				
Revenue	$ 977	$ 1,005	$ 1,034	$ 1,009	$ 4,025
Percentage of annual revenue	24%	25%	26%	25%	100%
Costs of licensing and maintenance	$ 66	$ 70	$ 73	$ 74	$ 283
Cost of professional services	$ 71	$ 78	$ 75	$ 76	$ 300
Amortization of capitalized software costs	$ 60	$ 67	$ 65	$ 64	$ 256
Income from continuing operations	$ 207	$ 172	$ 219	$ 171	$ 769
Basic income per common share from continuing operations	$ 0.47	$ 0.39	$ 0.52	$ 0.41	$ 1.79
Diluted income per common share from continuing operations	$ 0.47	$ 0.39	$ 0.52	$ 0.41	$ 1.78

Liquidity and Capital Resources

Our cash and cash equivalent balances are held in numerous locations throughout the world, with 60% held in our subsidiaries outside the United States at March 31, 2017 . Cash and cash equivalents totaled $2,771 million at March 31, 2017 , representing a decrease of $41 million from the March 31, 2016 balance of $2,812 million . During fiscal 2017 , there was a $103 million unfavorable translation effect from foreign exchange rates on cash held outside the United States in currencies other than the U.S. dollar.

Although 60% of our cash and cash equivalents is held by foreign subsidiaries, we currently neither intend nor expect a need to repatriate these funds to the United States in the foreseeable future. We expect existing domestic cash, cash equivalents, cash flows from operations and borrowings to be sufficient to fund our domestic operating activities and our investing and financing activities, including, among other things, the payment of regular quarterly dividends, compliance with our debt repayment schedules, repurchases of our common stock and the funding of capital expenditures, for at least the next 12 months and for the foreseeable future thereafter. In addition, we expect existing foreign cash, cash equivalents and cash flows from foreign operations to be sufficient to fund our foreign operating activities and investing activities, including, among other things, the funding of capital expenditures, acquisitions and research and development, for at least the next 12 months and for the foreseeable future thereafter.

Sources and Uses of Cash

Under our subscription and maintenance agreements, customers generally make installment payments over the term of the agreement, often with at least one payment due at contract execution, for the right to use our software products and receive product support, software fixes and new products when available. The timing and actual amounts of cash received from committed customer installment payments under any specific agreement can be affected by several factors, including the time value of money and the customer’s credit rating. Often, the amount received is the result of direct negotiations with the customer when establishing pricing and payment terms. In certain instances, the customer negotiates a price for a single upfront installment payment and seeks its own internal or external financing sources. In other instances, we may assist the customer by arranging financing on the customer's behalf through a third-party financial institution. Alternatively, we may decide to transfer our rights to the future committed installment payments due under the license agreement to a third-party financial institution in exchange for a cash payment. Once transferred, the future committed installments are payable by the customer to the third-party financial institution. Whether the future committed installments have been financed directly by the customer with our assistance or by the transfer of our rights to future committed installments to a third party, these financing agreements may contain limited recourse provisions with respect to our continued performance under the license agreements. Based on our historical experience, we believe that any liability that we may incur as a result of these limited recourse provisions will be immaterial.

Amounts billed or collected as a result of a single installment for the entire contract value, or a substantial portion of the contract value, rather than being invoiced and collected over the life of the license agreement, are reflected in the liability section of our Consolidated Balance Sheets as “Deferred revenue (billed or collected).” Amounts received from either a customer or a third-party financial institution that are attributable to later years of a license agreement have a positive impact on billings and cash provided by operating activities in the current period. Accordingly, to the extent these collections are attributable to the later years of a license agreement, billings and cash provided by operating activities during the license’s later years will be lower than if the payments were received over the license term. We are unable to predict with certainty the amount of cash to be collected from single installments for the entire contract value, or a substantial portion of the contract value, under new or renewed license agreements to be executed in future periods.

For fiscal 2017 , gross receipts related to single installments for the entire contract value, or a substantial portion of the contract value, were $489 million compared with $421 million in fiscal 2016 .

In any quarter, we may receive payments in advance of the contractually committed date on which the payments were otherwise due. In limited circumstances, we may offer discounts to customers to ensure payment in the current period of invoices that have been billed, but might not otherwise be paid until a subsequent period because of payment terms. Historically, any such discounts have not been material.

Amounts due from customers from our subscription licenses are offset by deferred revenue related to these license agreements, leaving no or minimal net carrying value on our Consolidated Balance Sheets for those amounts. The fair value of these amounts may exceed or be less than this carrying value but cannot be practically assessed since there is no existing market for a pool of customer receivables with contractual commitments similar to those owned by us. The actual fair value may not be known until these amounts are sold, securitized or collected. Although these customer license agreements commit the customer to payment under a fixed schedule, to the extent amounts are not yet due and payable by the customer, the agreements are considered executory in nature due to our ongoing commitment to provide maintenance and unspecified future software products as part of the agreement terms.

We can estimate the total amounts to be billed from committed contracts, referred to as our "billings backlog," and the total amount to be recognized as revenue from committed contracts, referred to as our "revenue backlog." The aggregate amounts of our billings backlog and trade receivables already reflected in our Consolidated Balance Sheets represent the amounts we expect to collect in the future from committed contracts.

	March 31, 2017	March 31, 2016
	(in millions)	
Billings backlog:		
Amounts to be billed — current	$ 1,941	$ 1,818
Amounts to be billed — noncurrent	2,599	2,077
Total billings backlog	$ 4,540	$ 3,895
Revenue backlog:		
Revenue to be recognized within the next 12 months — current	$ 3,240	$ 3,113
Revenue to be recognized beyond the next 12 months — noncurrent	4,316	3,716
Total revenue backlog	$ 7,556	$ 6,829
Deferred revenue (billed or collected)	$ 3,016	$ 2,934
Total billings backlog	4,540	3,895
Total revenue backlog	$ 7,556	$ 6,829

Note: Revenue backlog includes deferred subscription and maintenance, professional services and software fees and other revenue.

We can also estimate the total cash to be collected in the future from committed contracts, referred to as our "Expected future cash collections," by adding the total billings backlog to the trade accounts receivable, which represent amounts already billed but not collected, from our Consolidated Balance Sheets.

	March 31, 2017	March 31, 2016
	(in millions)	
Expected future cash collections:		
Total billings backlog	$ 4,540	$ 3,895
Trade accounts receivable, net	764	625
Total expected future cash collections	$ 5,304	$ 4,520

The 17% increase in total billings backlog at March 31, 2017 compared with March 31, 2016 was largely attributable to bookings associated with the aforementioned large system integrator transaction that occurred during the first quarter of fiscal 2017 that was scheduled to expire in fiscal 2018 and, to a lesser extent, from bookings associated with our acquisitions of Automic and Veracode. Excluding an unfavorable foreign exchange effect, total billings backlog increased 19% at March 31, 2017 compared with March 31, 2016 .

The increase in total expected future cash collections at March 31, 2017 compared with March 31, 2016 was primarily driven by the increase in billings backlog, as described above, and an increase in trade accounts receivable, net.

The 11% increase in total revenue backlog at March 31, 2017 compared with March 31, 2016 was primarily a result of the higher level of bookings for fiscal 2017, including the aforementioned large system integrator transaction that occurred during the first quarter of fiscal 2017 and, to a lesser extent, from bookings associated with and/or acquired from our acquisitions of Automic and Veracode. Excluding an unfavorable foreign exchange effect, total revenue backlog increased 12% at March 31, 2017 compared with March 31, 2016 .

Current revenue backlog, which is our revenue to be recognized within the next 12 months, increased 4% at March 31, 2017 compared with March 31, 2016 primarily due to bookings associated with and backlog acquired from our acquisitions of Automic and Veracode. Excluding an unfavorable foreign exchange effect, current revenue backlog increased 6% at March 31, 2017 compared with March 31, 2016 . Current revenue backlog declines as contracts move closer to their renewal dates. We expect revenue backlog will fluctuate throughout the year. Given the timing of our renewal portfolio, we expect our fiscal 2018 renewals to decrease by a percentage in the high teens.

Generally, we believe that a change in current revenue backlog on a year-over-year basis is an indicator of future subscription and maintenance revenue performance due to the high percentage of our revenue that is recognized from license agreements that are already committed and being recognized ratably. We also believe that if we do not demonstrate multiple quarters of total new product and capacity sales growth while maintaining a renewal yield in the low 90% range, our current revenue backlog would be unlikely to increase.

Unbilled amounts relating to subscription and maintenance licenses are mostly collectible over a period of one-to-five years and at March 31, 2017 , on a cumulative basis, 43%, 70%, 84%, 94% and 97% come due within fiscal 2018 through 2022 , respectively.

Net Cash Provided by Operating Activities

	Year Ended March 31,			$ Change	
	2017	2016	2015	2017 / 2016	2016 / 2015
			(in millions)		
Cash collections from billings [1]	$ 4,253	$ 4,229	$ 4,515	$ 24	$ (286)
Vendor disbursements and payroll [1]	(2,723)	(2,773)	(2,960)	50	187
Income tax payments, net	(384)	(365)	(411)	(19)	46
Other disbursements, net [2]	(107)	(57)	(114)	(50)	57
Net cash provided by operating activities from continuing operations	$ 1,039	$ 1,034	$ 1,030	$ 5	$ 4

(1) Amounts include value added taxes and sales taxes.

(2) For fiscal 2017, amount includes $49 million of payments in connection with the litigation settlement agreements, payments associated with the Fiscal Year 2014 Rebalancing Plan (Fiscal 2014 Plan), interest, prior period restructuring plans and miscellaneous receipts and disbursements. For fiscal 2016, amount includes payments associated with the Fiscal 2014 Plan, interest, prior period restructuring plans and miscellaneous receipts and disbursements. For fiscal 2015, amount includes $66 million of payments associated with the Fiscal 2014 Plan, interest, prior period restructuring plans and miscellaneous receipts and disbursements.

Fiscal 2017 Compared with Fiscal 2016

Operating Activities

Net cash provided by operating activities from continuing operations for fiscal 2017 was $1,039 million , representing an increase of $5 million compared with fiscal 2016 . The increase in net cash provided by operating activities for fiscal 2017 compared with the year-ago period was due to a decrease in vendor disbursements and payroll of $50 million and an increase in cash collections from billings of $24 million from higher single installment collections. These favorable effects were offset by an increase in other disbursements, net of $50 million , primarily due to $49 million of payments in connection with the litigation settlement agreements (refer to Note 11, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements for additional information), and an increase in income tax payments, net of $19 million .

Investing Activities

Net cash used in investing activities from continuing operations for fiscal 2017 was $1,337 million compared with $645 million for fiscal 2016 . The increase in net cash used in investing activities for fiscal 2017 compared with the year-ago period was primarily due to an increase in net cash paid for acquisitions and purchased software of $640 million and a decrease in proceeds from the sale of short-term investments of $48 million, which were received from the acquisition of Rally during the second quarter of fiscal 2016.

Financing Activities

Net cash provided by financing activities from continuing operations for fiscal 2017 was $360 million compared with net cash used in financing activities from continuing operations of $443 million for fiscal 2016 . The change in net financing activities was primarily due to a decrease in common shares repurchased of $607 million, which was primarily due to our share repurchase arrangement with Careal in fiscal 2016, and a decrease in debt repayments of $403 million, which was primarily due to the repayment of our $400 million borrowing under our revolving credit facility in fiscal 2016. These amounts were partially offset by a decrease in debt borrowings of $250 million compared with fiscal 2016.

Refer to the “Debt Arrangements” table below for additional information about our debt balances at March 31, 2017 .

Fiscal 2016 Compared with Fiscal 2015

Operating Activities

Net cash provided by operating activities from continuing operations for fiscal 2016 was $1,034 million, representing an increase of $4 million compared with fiscal 2015. Net cash provided by operating activities for fiscal 2016 increased slightly compared with the year-ago period due to lower disbursements, lower payments associated with our Fiscal 2014 Plan and lower income tax payments, net, offset by a decrease in cash collections from billings, which included lower single installment payments. There was an overall unfavorable effect from foreign exchange of $82 million on net cash provided by operating activities from continuing operations.

Investing Activities

Net cash used in investing activities from continuing operations for fiscal 2016 was $645 million compared with $91 million for fiscal 2015. The increase in net cash used in investing activities for fiscal 2016 compared with the year-ago period was primarily due to the increase in cash paid for acquisitions and purchased software of $610 million, partially offset by proceeds of $48 million from the sale of short-term investments, which were received from the acquisition of Rally during the second quarter of fiscal 2016.

Financing Activities

Net cash used in financing activities from continuing operations for fiscal 2016 was $443 million compared with $977 million for fiscal 2015. The decrease in net cash used in financing activities for fiscal 2016 compared with the year-ago period was primarily due to the $1.1 billion of debt borrowings, which consisted of the following: (1) our July 2015 borrowing under our revolving credit facility of $400 million in connection with the acquisition of Rally; (2) our August 2015 borrowing from our 3.600% Senior Notes due August 2020 of $400 million; and (3) our October 2015 borrowing under our Term Loan of $300 million. In addition, there was a decrease in debt repayments of $99 million and a decrease in dividends paid of $15 million compared with fiscal 2015. These financing activities were partially offset by an increase in common shares repurchased of $492 million, which was primarily due to our share repurchase arrangement with Careal, a decrease in net borrowings from our notional pooling arrangement of $142 million, a decrease in other financing activities of $24 million, which were due to payments associated with prior year acquisitions, and a decrease in cash received from exercises of stock options of $18 million compared with fiscal 2015.

Refer to the “Debt Arrangements” table below for additional information about our debt balances at March 31, 2016 .

Debt Arrangements

Our debt arrangements consisted of the following:

	At March 31,	
	2017	2016
	(in millions)	
Revolving credit facility	$ —	$ —
2.875% Senior Notes due August 2018	250	250
5.375% Senior Notes due December 2019	750	750
3.600% Senior Notes due August 2020	400	400
3.600% Senior Notes due August 2022	500	—
4.500% Senior Notes due August 2023	250	250
4.700% Senior Notes due March 2027	350	—
Term Loan due April 2022	300	300
Other indebtedness, primarily capital leases	8	15
Unamortized debt issuance costs	(14)	(8)
Unamortized discount for Senior Notes	(3)	(4)
Total debt outstanding	$ 2,791	$ 1,953
Less the current portion	(18)	(6)
Total long-term debt portion	$ 2,773	$ 1,947

Significant changes to our debt obligations during fiscal 2017 consisted of the following:

Senior Notes: In March 2017, we issued $500 million of 3.600% Senior Notes due August 2022 for proceeds of $500 million, reflecting a discount of less than $1 million, and $350 million of 4.700% Senior Notes due March 2027 for proceeds of $350 million. The 3.600% Senior Notes due August 2022 and the 4.700% Senior Notes due March 2027 are senior unsecured obligations that rank equally in right of payment with all of our existing and future unsecured and unsubordinated obligations. Interest on the 3.600% Senior Notes due August 2022 is payable semiannually in February and August. Interest on the 4.700% Senior Notes due March 2027 is payable semiannually in March and September. These Senior Notes contain customary covenants and events of default, and the maturity of these Senior Notes may be accelerated by holders upon certain events of default, including failure to make payments when due and failure to comply with covenants.

At March 31, 2017 , our senior unsecured notes were rated Baa2 (stable) by Moody’s Investor Services, BBB+ (stable) by Standard and Poor’s and BBB+ (stable) by Fitch Ratings.

Other Indebtedness: We have $114 million of unsecured and uncommitted multi-currency lines of credit available to meet short-term working capital needs for our subsidiaries and use guarantees and letters of credit issued by financial institutions to guarantee performance on certain contracts and other items. At March 31, 2017 and 2016 , $51 million and $55 million , respectively, of these lines of credit were pledged in support of bank guarantees and other local credit lines. At March 31, 2017 and 2016 , none of these arrangements were drawn down by third parties.

Our revolving credit facility provides a maximum committed amount available of $1 billion. The facility also provides us with an option to increase the available credit by an amount up to $500 million. This option is subject to certain conditions and the agreement of the facility lenders. At March 31, 2017 and 2016 , there were no outstanding borrowings under the revolving credit facility.

From time to time, we examine our debt balances in light of market conditions and other factors and thus, the levels of our debt balances may change . For further information, refer to Note 8, "Debt," in the Notes to the Consolidated Financial Statements.

Stock Repurchases

In November 2015, our Board approved a stock repurchase program that authorized us to acquire up to $750 million of our common stock. We expect to repurchase shares on the open market, through solicited or unsolicited privately negotiated transactions or otherwise from time to time based on market conditions and other factors.

During fiscal 2017, we repurchased 3.1 million shares of our common stock for $100 million . At March 31, 2017 , we remained authorized to purchase $650 million of our common stock under our current stock repurchase program.

In November 2015, we entered into and closed on an arrangement with Careal to repurchase 22 million shares of our common stock in a private transaction. The transaction was valued with an effective share repurchase price of $26.81 per share, which represented a 3% discount to the 10-trading day volume weighted average price of our common stock using a reference date of November 5, 2015. Our payment to Careal upon closing was reduced by $0.25 per share to account for our dividend that was paid on December 8, 2015 to stockholders of record on November 19, 2015. As a result of the share repurchase and dividend payment, in total we paid Careal $590 million during the third quarter of fiscal 2016 in connection with the 22 million shares repurchased. The transaction was funded with U.S. cash on hand and effectively concluded our prior $1 billion stock repurchase program approved by our Board in May 2014.

Including the November 2015 share repurchase arrangement with Careal, we repurchased 26 million shares of our common stock for $707 million during fiscal 2016.

During fiscal 2015, we repurchased 7.2 million shares of our common stock for $215 million .

Dividends

We have paid cash dividends each year since July 1990. During fiscal 2017 , 2016 and 2015 , we paid annual cash dividends of $1.02, $1.00 and $1.00 per share, respectively. During fiscal 2017 , 2016 and 2015 , we paid quarterly cash dividends of $0.255, $0.25 and $0.25 per share, respectively.

Effect of Foreign Exchange Rate Changes

There was a $103 million unfavorable translation effect on our cash balances in fiscal 2017 predominantly due to the strengthening of the U.S. dollar against the euro (6%), the British pound sterling (13%) and the Danish krone (6%), partially offset by the weakening of the U.S. dollar against the Brazilian real (15%) and the Israeli shekel (3%).

There was a $24 million favorable translation effect on our cash balances in fiscal 2016 predominantly due to the weakening of the U.S. dollar against the euro (6%) and the Israeli shekel (6%), partially offset by the strengthening of the U.S. dollar against the British pound sterling (3%) and the Brazilian real (11%).

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements with unconsolidated entities or related parties and, accordingly, off-balance sheet risks to our liquidity and capital resources from unconsolidated entities are limited.

Contractual Obligations and Commitments

We have commitments under certain contractual arrangements to make future payments for goods and services. These contractual arrangements secure the rights to various assets and services to be used in the future in the normal course of business. For example, we are contractually committed to make certain minimum lease payments for the use of property under operating lease agreements. In accordance with current accounting rules, the future rights and related obligations pertaining to such contractual arrangements are not reported as assets or liabilities on our Consolidated Balance Sheets. We expect to fund these contractual arrangements with cash generated from operations in the normal course of business.

The following table summarizes our contractual arrangements at March 31, 2017 and the timing and effect that those commitments are expected to have on our liquidity and cash flow in future periods. In addition, the table summarizes the timing of payments on our debt obligations as reported on our Consolidated Balance Sheet at March 31, 2017 .

	Payments Due By Period				
Contractual Obligations	Total	Less Than 1 Year	1–3 Years	3–5 Years	More Than 5 Years
			(in millions)		
Long-term debt obligations (inclusive of interest)	$ 3,370	$ 130	$ 1,255	$ 565	$ 1,420
Operating lease obligations (1)	437	93	156	105	83
Purchase obligations	135	79	54	2	—
Other obligations (2)	98	34	28	17	19
Total	$ 4,040	$ 336	$ 1,493	$ 689	$ 1,522

(1) The contractual obligations for noncurrent operating leases exclude sublease income totaling $34 million expected to be received in the following periods: $8 million (less than 1 year); $18 million (1–3 years); and $8 million (3–5 years).

(2) $145 million of estimated liabilities related to unrecognized tax benefits are excluded from the contractual obligations table because we could not make a reasonable estimate of when those amounts will become payable.

Critical Accounting Policies and Estimates

We review our financial reporting and disclosure practices and accounting policies quarterly to help ensure that they provide accurate and transparent information relative to the current economic and business environment. Note 1, “Significant Accounting Policies” in the Notes to the Consolidated Financial Statements contains a summary of the significant accounting policies that we use. Many of these accounting policies involve complex situations and require a high degree of judgment, either in the application and interpretation of existing accounting literature or in the development of estimates that affect our financial statements. On an ongoing basis, we evaluate our estimates and judgments based on historical experience as well as other factors that we believe to be reasonable under the circumstances. These estimates may change in the future if underlying assumptions or factors change.

We consider the following significant accounting policies to be critical because of their complexity and the high degree of judgment involved in implementing them.

Revenue Recognition

We generate revenue from the following primary sources: (1) licensing software products, including SaaS license agreements; (2) providing customer technical support (referred to as maintenance); and (3) providing professional services, such as product implementation, consulting, customer education and customer training services.

Software license agreements under our subscription model include the right to receive and use unspecified future software products for no additional fee during the term of the agreement. We are required under generally accepted accounting principles (GAAP) to recognize revenue from these subscription licenses ratably over the term of the agreement. These amounts are recorded as subscription and maintenance revenue.

We also license our software products without the right to unspecified future software products. Revenue from these arrangements is either recognized at the inception of the license agreement (upfront basis) or ratably over the term of any maintenance agreement that is bundled with the license. Revenue is recognized upfront only when we have established VSOE for all of the undelivered elements of the agreement. We use the residual method to determine the amount of license revenue to be recognized upfront. The residual method allocates arrangement consideration to the undelivered elements based upon VSOE of the fair value of those elements, with the residual of the arrangement consideration allocated to the license. The portion allocated to the license is recognized upfront once all four of the revenue recognition criteria are met as described below. We establish VSOE of the fair value of maintenance from either contractually stated renewal rates or using the bell-shaped curve method. VSOE of the fair value of professional services is established using the bell-shaped curve method based on hourly rates when sold on a stand-alone basis. Upfront revenue is recorded as Software Fees and Other. Revenue recognized on an upfront model will result in higher total revenue in a reporting period than if that revenue was recognized ratably.

If VSOE does not exist for all undelivered elements of an arrangement, we recognize total revenue from the arrangement ratably over the term of the maintenance agreement. Revenue recognized ratably is recorded as “Subscription and maintenance revenue.”

Revenue recognition does not commence until (1) we have evidence of an arrangement with a customer; (2) we deliver the specified products; (3) license agreement terms are fixed or determinable and free of contingencies or uncertainties that may alter the agreement such that it may not be complete and final; and (4) collection is probable. Revenue from sales to distributors and volume partners, value-added resellers and exclusive representatives commences, either on an upfront basis or ratably as described above, when these entities sell the software product to their customers. This is commonly referred to as the sell-through method.

Revenue from professional services arrangements is generally recognized as the services are performed. Revenue and costs from committed professional services that are sold as part of a software license agreement are deferred and recognized on a ratable basis over the life of the related software transaction.

In the event that agreements with our customers are executed in close proximity of other software license agreements with the same customer, we evaluate whether the separate arrangements are linked, and, if so, the agreements are considered a single multi-element arrangement for which revenue is recognized ratably as “Subscription and maintenance” in the Consolidated Statements of Operations, except for SaaS and professional services agreements. In the case of a SaaS agreement that is linked to a subscription-based software license arrangement, revenue is recognized ratably as "Software fees and other" for its respective portion in the Consolidated Statements of Operations. In the case of a professional services agreement that is linked to a subscription-based software license arrangement, revenue is recognized as "Professional services" for its respective portion in the Consolidated Statements of Operations.

We have an established business practice of offering installment payment options to customers and a history of successfully collecting substantially all amounts due under those agreements. We assess collectability based on a number of factors, including past transaction history with the customer and the creditworthiness of the customer. If, in our judgment, collection of a fee is not probable, we will not recognize revenue until the uncertainty is removed through the receipt of cash payment. We do not typically offer installment payments for perpetual license agreements that are recognized upfront within “Software fees and other.”

Refer to Note 1, “Significant Accounting Policies” for additional information on our revenue recognition policy.

Accounts Receivable

The allowance for doubtful accounts is a reserve for the impairment of accounts receivable on the Consolidated Balance Sheets. In developing the estimate for the allowance for doubtful accounts, we rely on several factors, including:

- Historical information, such as general collection history of multi-year software agreements;
- Current customer information and events, such as extended delinquency, requests for restructuring and filings for bankruptcy;
- Results of analyzing historical and current data; and
- The overall macroeconomic environment.

The allowance includes two components: (1) specifically identified receivables that are reviewed for impairment when, based on current information, we do not expect to collect the full amount due from the customer; and (2) an allowance for losses inherent in the remaining receivable portfolio based on historical activity.

Income Taxes

We account for income taxes under the asset and liability method. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, along with net operating losses and tax credit carryforwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We recognize the effect on deferred tax assets and liabilities of a change in tax rates on income in the period that includes the enactment date.

We recognize the effect of income tax positions only if those positions are more likely than not of being sustained. We reflect changes in recognition or measurement in a period in which the change in judgment occurs. We record interest and penalties related to uncertain tax positions in income tax expense.

Goodwill, Capitalized Software Products, and Other Intangible Assets

Goodwill represents the excess of the purchase price over the fair value of net assets acquired in connection with business combinations accounted for using the purchase method of accounting. Goodwill is not amortized, but instead goodwill is required to be tested for impairment annually and under certain circumstances. We review goodwill for impairment on an annual basis on the first day of the fourth quarter of each fiscal year, and on an interim basis whenever events or changes in circumstances indicate that the carrying value may not be recoverable, at the reporting unit level. Our reporting units are the same as our operating segments.

When evaluating goodwill for impairment, based upon our annual test or due to changes in circumstances described above, we first can opt to perform a qualitative assessment to determine if the fair value of a reporting unit is more likely than not (*i.e.* , a likelihood of more than 50%) less than the reporting unit's carrying amount, including goodwill, or we can directly perform the two-step impairment test. This qualitative assessment includes, among other things, consideration of: (i) identifying inputs and assumptions that most affect fair value; (ii) identifying relevant events and circumstances that may have an impact on those inputs and assumptions; (iii) weighing the events and circumstances; and (iv) concluding on the totality of events and circumstances. If this assessment indicates that the fair value of the reporting unit exceeds the carrying value of the net assets assigned to that unit, goodwill is not considered impaired and we are not required to perform further testing. However, if the fair value of a reporting unit is more likely than not to be less than its carrying amount, the two-step impairment test will be performed.

When performing the two-step impairment test, we first determine the estimated fair value of our reporting units using the income approach. Under the income approach, we calculate the estimated fair value of a reporting unit based on the present value of estimated future cash flows. If the carrying value of the reporting unit exceeds the estimated fair value, we then calculate the implied fair value of goodwill for the reporting unit and compare it to the carrying amount of goodwill for the reporting unit. If the carrying amount of goodwill exceeds the implied fair value, an impairment charge is recorded to our statement of operations to reduce the carrying value to implied value.

Significant judgments and estimates are required in determining the reporting units and assessing the fair value of the reporting units. These estimates and assumptions are complex and subject to a significant degree of judgment with respect to certain factors including, but not limited to, revenue growth rates and operating profit margins that are used to project future cash flows, discount rates, future economic and market conditions and determination of appropriate market comparables. We make certain judgments and assumptions in allocating shared costs among reporting units. We base our fair value estimates on assumptions that are consistent with information used by the business for planning purposes and that we believe to be reasonable; however, actual future results may differ from those estimates. Changes in judgments on any of these factors could materially affect the value of the reporting unit.

Based on our qualitative impairment analysis performed for fiscal 2017 , we determined that it was more likely than not that there was no impairment of any of our reporting units and that the estimated fair value of each of our reporting units exceeded the carrying amount of the unit by more than 10% of the carrying amount.

The carrying values of purchased software, internally developed software and other intangible assets are also reviewed for recoverability on a quarterly basis. The facts and circumstances considered include an assessment of the net realizable value for capitalized software products and the recoverability of the cost of other intangible assets from future cash flows to be derived from the use of the asset. It is not possible for us to predict the likelihood of any possible future impairments or, if such an impairment were to occur, the magnitude of any impairment.

Intangible assets with finite useful lives are subject to amortization over the expected period of economic benefit to us. We evaluate whether events or circumstances have occurred that warrant a revision to the remaining useful lives of intangible assets. In cases where a revision is deemed appropriate, the remaining carrying amounts of the intangible assets are amortized over the revised remaining useful life.

Acquisitions

We apply the provisions of FASB ASC Topic 805, *Business Combinations* , in the accounting for our acquisitions. It requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at the acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our Consolidated Statements of Operations.

Accounting for business combinations requires us to make significant estimates and assumptions, including fair value estimates, to determine the fair value of assets acquired and liabilities assumed and the related useful lives of the acquired assets, when applicable, as of the acquisition date. Although we believe the assumptions and estimates we have made are reasonable, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Examples of critical estimates used in valuing certain of the intangible assets we have acquired or may acquire in the future include but are not limited to:

- future expected cash flows from sales, maintenance agreements and acquired developed technologies;
- the acquired company’s trade names and customer relationships as well as assumptions about the period of time the acquired trade names and customer relationships will continue to be used in the combined company’s product portfolio; and

- discount rates used to determine the present value of estimated future cash flows.

These estimates are inherently uncertain and unpredictable, and if different estimates were used, the purchase price for the acquisition could be allocated to the acquired assets and liabilities differently from the allocation that we have made. Additionally, unanticipated events and circumstances may occur which may affect the accuracy or validity of such assumptions, estimates or actual results.

Refer to Note 2, “Acquisitions,” for additional information.

Share-Based Compensation

We currently maintain several stock-based compensation plans. We use the Black-Scholes option-pricing model to compute the estimated fair value of certain share-based awards. The Black-Scholes model includes assumptions regarding dividend yields, expected volatility, expected lives, and risk-free interest rates. These assumptions reflect our best estimates, but these items involve uncertainties based on market and other conditions outside of our control. As a result, if other assumptions had been used, stock-based compensation expense could have been materially affected. Furthermore, if different assumptions are used in future periods, stock-based compensation expense could be materially affected in future years.

As described in Note 14, “Stock Plans,” in the Notes to the Consolidated Financial Statements, performance share units (PSUs) are awards under the long-term incentive programs for senior executives where the number of shares or restricted shares, as applicable, ultimately received by the senior executives depends on our performance measured against specified targets and will be determined at the conclusion of the three-year or one-year period, as applicable. The fair value of each award is estimated on the date that the performance targets are established based on the fair value of our stock and our estimate of the level of achievement of our performance targets. We are required to recalculate the fair value of issued PSUs each reporting period until the underlying shares are granted. The adjustment is based on the quoted market price of our stock on the reporting period date. Each quarter, we compare the actual performance we expect to achieve with the performance targets.

Fair Value of Financial Instruments

The measurement of fair value for our financial instruments is based on the authoritative guidance which establishes a fair value hierarchy that is based on three levels of inputs and requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Refer to Note 10, “Fair Value Measurements,” for additional information.

We are exposed to financial market risks arising from changes in interest rates and foreign exchange rates. Changes in interest rates could affect our monetary assets and liabilities, and foreign exchange rate changes could affect our foreign currency denominated monetary assets and liabilities and forecasted transactions. We enter into derivative contracts with the intent of mitigating a portion of these risks. Refer to Note 9, “Derivatives,” for additional information.

Legal Contingencies

We are currently involved in various legal proceedings and claims. Periodically, we review the status of each significant matter and assess our potential financial exposure. If the potential loss from any legal proceeding or claim is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of the probability of a loss and the determination as to whether the amount of loss is reasonably estimable. Due to the uncertainties related to these matters, the decision to record an accrual and the amount of accruals recorded are based only on the information available at the time. As additional information becomes available, we reassess the potential liability related to our pending litigation and claims, and may revise our estimates. Any revisions could have a material effect on our results of operations. Refer to Note 11, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements for a description of our material legal proceedings.

New Accounting Pronouncements

For information regarding new accounting pronouncements, and the impact of these pronouncements on our consolidated financial statements, if any, refer to Note 1, “Significant Accounting Policies,” in the Notes to the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate Risk

Our exposure to market rate risk for changes in interest rates relates primarily to our investment portfolio and debt. We have a prescribed methodology whereby we invest our excess cash in investments that are composed of money market funds, debt instruments of government agencies and investment grade corporate issuers (Standard and Poor’s BBB or Moody's Investor Services Baa2 rating and higher).

At March 31, 2017 , our outstanding debt was $2,791 million . Refer to Note 8, “Debt,” in the Notes to the Consolidated Financial Statements for additional information.

In the third quarter of fiscal 2016, we entered into a $300 million variable rate term loan agreement. A hypothetical 100 basis point increase in interest rates applied to the term loan as of March 31, 2017 would increase interest expense by approximately $3 million per year.

At March 31, 2017 and 2016 , we had no interest rate swap derivatives outstanding.

Foreign Exchange Risk

We conduct business on a worldwide basis through subsidiaries in 45 foreign countries and, as such, a portion of our revenues, earnings and net investments in foreign affiliates is exposed to changes in foreign exchange rates. We seek to manage our foreign exchange risk in part through operational means, including managing expected local currency revenues in relation to local currency costs and local currency assets in relation to local currency liabilities. Our Board has adopted a Risk Management Policy and Procedure, which authorize us to manage, based on management's assessment, our risks and exposures to foreign exchange rates through the use of derivative financial instruments (*e.g.* , forward contracts, options and swaps) or other means. We only use derivative financial instruments in the context of hedging and do not use them for speculative purposes.

During fiscal 2017 and 2016 , we did not designate our foreign exchange derivatives as hedges. Accordingly, all foreign exchange derivatives are recorded in our Consolidated Balance Sheets at fair value and unrealized or realized changes in fair value from these contracts are recorded as "Other expenses, net" in our Consolidated Statements of Operations.

Refer to Note 9, "Derivatives" for additional information regarding our derivative activities.

If foreign exchange rates affecting our business changed by 10% on an overall basis in comparison to the U.S. dollar, the amount of cash and cash equivalents we would report in U.S. dollars at March 31, 2017 would increase or decrease by approximately $167 million.

Item 8. Financial Statements and Supplementary Data.

Our Consolidated Financial Statements are included in Part IV, Item 15 of this Form 10-K and are incorporated herein by reference.

The supplementary data specified by Item 302 of Regulation S-K as it relates to selected quarterly data is included in the "Selected Quarterly Information" section of Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations." Information on the effects of changing prices is not required.

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

Not applicable.

Item 9A. Controls and Procedures.

(a) Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of the Company's management, including the Chief Executive Officer and the Chief Financial Officer, the Company has evaluated the effectiveness of its disclosure controls and procedures as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (Exchange Act). Based on that evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of the end of the period covered by this Form 10-K.

(b) Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Exchange Act Rules 13a-15(f) and 15d-15(f). The 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.

The Company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with 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 Company's financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. 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 conducted its evaluation of the effectiveness of internal control over financial reporting at March 31, 2017 based on the framework in *Internal Control — Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management's evaluation included the design of the Company's internal control over financial reporting and the operating effectiveness of the Company's internal control over financial reporting. Based on that evaluation, the Company's management concluded that the Company's internal control over financial reporting was effective as of the end of the period covered by this Form 10-K.

The Company's independent registered public accounting firm, KPMG LLP, has audited the effectiveness of the Company's internal control over financial reporting as stated in their report which appears on page 60 of this Form 10-K.

(c) Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting, as that term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, that occurred during the fourth fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

None

Part III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required by this Item that will appear under the headings “Election of Directors,” “Director Nominating Procedures,” “Board Committees and Meetings” and “Section 16(a) Beneficial Ownership Reporting Compliance” in the definitive proxy statement to be filed with the SEC relating to our 2017 Annual Meeting of Stockholders is incorporated herein by reference. Also, refer to Part I under the heading “Executive Officers of the Registrant” for information concerning our executive officers.

We maintain a Code of Conduct that qualifies as a “code of ethics” within the meaning of Item 406 of the SEC’s Regulation S-K. Our Code of Conduct is applicable to all employees and directors, including our principal executive officer, principal financial officer, principal accounting officer and controller, or persons performing similar functions. Our Code of Conduct is available on our website at www.ca.com/invest . Any amendment to, or waiver of, the “code of ethics” provisions of our Code of Conduct that applies to our directors or executive officers will be disclosed on our website. The Code of Conduct is available without charge in print to any stockholder who requests a copy by writing to our Corporate Secretary, at CA, Inc., 520 Madison Avenue, New York, New York 10022.

Item 11. Executive Compensation.

Information required by this Item that will appear under the headings “Compensation and Other Information Concerning Executive Officers,” “Compensation Discussion and Analysis,” “Compensation of Directors,” “Compensation Committee Interlocks and Insider Participation” and “Compensation and Human Resources Committee Report on Executive Compensation” in the definitive proxy statement to be filed with the SEC relating to our 2017 Annual Meeting of Stockholders is incorporated herein by reference.

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

Information required by this Item that will appear under the headings “Information Regarding Beneficial Ownership of Principal Stockholders, the Board and Management” and “Securities Authorized for Issuance under Equity Compensation Plans” in the definitive proxy statement to be filed with the SEC relating to our 2017 Annual Meeting of Stockholders is incorporated herein by reference.

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

Information required by this Item that will appear under the headings “Related Person Transactions,” “Related Person Transactions in Fiscal Year 2017 ” and “Director Independence” in the definitive proxy statement to be filed with the SEC relating to our 2017 Annual Meeting of Stockholders is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services.

Information required by this Item that will appear under the heading “Ratification of Appointment of Independent Registered Public Accounting Firm” in the definitive proxy statement to be filed with the SEC relating to our 2017 Annual Meeting of Stockholders is incorporated herein by reference.

Part IV

Item 15. Exhibits and Financial Statement Schedules.

(a)(1) The Registrant's financial statements together with a separate table of contents are annexed hereto.

(2) Financial Statement Schedules are listed in the separate table of contents annexed hereto.

(3) Exhibits.

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	Filed or Furnished Herewith
2.1 ‡	Acquisition Agreement, dated as of May 27, 2015, by and among CA, Inc., Grand Prix Acquisition Corp., and Rally Software Development Corp.	8-K	2.1	5/28/15	
2.2‡	Agreement for the Sale and Purchase of all shares in Automic Holding GmbH, dated as of November 30, 2016, between Unicorn Luxembourg II S.à r.l. and CA Europe Sàrl.	8-K	2.1	12/01/16	
2.3‡	Agreement and Plan of Merger, dated as of March 6, 2017, by and among CA, Inc., a Delaware corporation, Vanguard Acquisition Co., a Delaware corporation and a wholly-owned subsidiary of CA, Inc., Veracode, Inc., a Delaware corporation, and Shareholder Representative Services LLC, as the Securityholders' Agent.	8-K	2.1	03/06/17	
3.1	Restated Certificate of Incorporation.	8-K	3.3	03/09/06	
3.2	By-Laws of the Company, as amended.	10-K	3.2	05/08/15	
4.1	Stockholder Protection Rights Agreement, dated as of November 30, 2015, between CA, Inc. and Computershare Trust Company, N.A., as Rights Agent, including as Exhibit A the forms of Rights Certificate and of Election to Exercise and as Exhibit B the form of Certificate of Designation and Terms of the Participating Preferred Stock, Class A of the CA, Inc.	8-K	4.1	12/01/15	
4.2	Indenture dated June 1, 2008 between the Company and U.S. Bank National Association, as trustee, relating to the senior debt securities, the senior subordinated debt securities and the junior subordinated debt securities, as applicable.	S-3	4.1	06/12/08	
4.3	Officers' Certificates dated November 13, 2009 establishing the terms of the Company's 5.375% Senior Notes due 2019 pursuant to the Indenture dated June 1, 2008 (including the form of the Senior Notes).	8-K	4.2	11/13/09	
4.4	Officers' Certificate dated August 16, 2013 establishing the terms of the Company's 2.875% Senior Notes due 2018 and 4.500% Senior Notes due 2023 pursuant to the Indenture dated June 1, 2008 (including the forms of the Senior Notes).	8-K	4.2	08/16/13	
4.5	Officers' Certificate dated August 4, 2015 establishing the terms of the Company's 3.600% Senior Notes due 2020 pursuant to the Indenture dated June 1, 2008 (including the form of the Senior Notes).	8-K	4.2	08/04/15	
4.6	Officers' Certificate dated March 17, 2017 establishing the terms of the Company's 3.600% Senior Notes due 2022 and 4.700% Senior Notes due 2027 pursuant to the Indenture dated June 1, 2008 (including the forms of the Senior Notes).	8-K	4.2	03/17/17	

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	Filed or Furnished Herewith
10.1*	Program whereby certain designated employees, including the Company's Named Executive Officers, are provided with certain covered medical services, effective August 1, 2005.	8-K	10.1	08/02/05	
10.2*	Amended and Restated CA, Inc. Executive Deferred Compensation Plan, effective November 20, 2006.	10-Q	10.1	02/06/07	
10.3*	Form of Deferral Election.	10-K	10.52	07/31/06	
10.4	Lease dated August 15, 2006 among the Company, Island Headquarters Operators LLC and Islandia Operators LLC.	8-K	10.2	08/21/06	
10.5*	CA, Inc. 2007 Incentive Plan.	8-K	10.1	08/27/07	
10.6*	Form of Award Agreement under the CA, Inc. 2007 Incentive Plan - Restricted Stock Units.	8-K	10.2	08/27/07	
10.7*	Form of Award Agreement under the CA, Inc. 2007 Incentive Plan - Restricted Stock Awards.	8-K	10.3	08/27/07	
10.8*	Form of Award Agreement under the CA, Inc. 2007 Incentive Plan - Non-Qualified Stock Awards.	8-K	10.4	08/27/07	
10.9*	First Amendment to CA, Inc. Executive Deferred Compensation Plan, effective February 25, 2008.	10-K	10.68	05/23/08	
10.10*	First Amendment to Adoption Agreement for CA, Inc. Executive Deferred Compensation Plan, effective February 25, 2008.	10-K	10.69	05/23/08	
10.11*	Director Retirement Donation Policy.	10-Q	10.9	10/23/09	
10.12*	Form of Restricted Stock Unit Award Agreement for certain Named Executive Officers.	10-Q	10.3	01/29/10	
10.13*	Homeowners Relocation Policy for Senior Executives.	10-K	10.23	05/12/16	
10.14*	Renters Relocation Policy for Senior Executives.	10-K	10.24	05/12/16	
10.15*	CA, Inc. Special Retirement Vesting Benefit Policy.	10-Q	10.1	01/26/11	
10.16*	CA, Inc. 2003 Compensation Plan for Non-Employee Directors (amended and restated dated December 31, 2010).	10-Q	10.2	01/26/11	
10.17*	Letter dated May 18, 2011 from the Company to Richard J. Beckert regarding terms of employment.	10-Q	10.1	07/22/11	
10.18*	CA, Inc. 2011 Incentive Plan.	DEF 14A	Exhibit B	06/10/11	
10.19*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-Q	10.4	10/28/11	
10.20*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-Q	10.5	10/28/11	
10.21*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards (special retirement vesting).	10-Q	10.6	10/28/11	
10.22*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options.	10-Q	10.7	10/28/11	
10.23*	CA, Inc. 2012 Employee Stock Purchase Plan.	DEF 14A	Exhibit C	06/10/11	
10.24*	Form of Transitional Award Agreement under the CA, Inc. 2007 Incentive Plan - Restricted Stock Awards.	10-K	10.55	05/11/12	
10.25*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-K	10.57	05/11/12	
10.26*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-K	10.58	05/11/12	

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	Filed or Furnished Herewith
10.27*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards (special retirement vesting).	10-K	10.59	05/11/12	
10.28*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options.	10-K	10.60	05/11/12	
10.29*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options (Canadian employees).	10-K	10.61	05/11/12	
10.30*	CA, Inc. 2012 Compensation Plan for Non-Employee Directors.	DEF 14A	Exhibit B	06/11/12	
10.31*	Summary description of amended financial planning benefit.	10-Q	10.1	10/26/12	
10.32*	Employment Agreement dated December 10, 2012 between the Company and Michael P. Gregoire.	8-K	10.1	12/12/12	
10.33*	CA, Inc. Change in Control Severance Policy (amended and restated effective August 5, 2015).	10-Q	10.1	10/22/15	
10.34*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options (Canadian employees).	10-K	10.64	05/09/13	
10.35	Amended and Restated Credit Agreement dated June 7, 2013.	8-K	10.1	06/10/13	
10.36*	Form of Sign-On Award Agreement for Lauren P. Flaherty under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-Q	10.2	10/25/13	
10.37*	Form of Sign-On Award Agreement for Lauren P. Flaherty under the CA, Inc. 2011 Incentive Plan - Nonqualified Stock Options.	10-Q	10.3	10/25/13	
10.38*	Letter dated January 21, 2014 from the Company to Adam Elster regarding terms of employment.	8-K	10.1	01/21/14	
10.39*	Separation Agreement and General Claims Release dated June 23, 2015 between the Company and Amit Chatterjee.	10-Q	10.4	07/24/15	
10.40*	CA, Inc. Executive Severance Policy effective May 13, 2014.	10-K	10.63	05/19/14	
10.41*	Summary description of Director compensation.	10-K	10.64	05/19/14	
10.42*	Letter dated June 14, 2013 from the Company to Lauren P. Flaherty regarding terms of employment.	10-Q	10.2	07/24/14	
10.43*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Executive Officer Restricted Stock Awards.	10-Q	10.4	07/24/14	
10.44*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-Q	10.5	07/24/14	
10.45*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-Q	10.6	07/24/14	
10.46*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options.	10-Q	10.7	07/24/14	
10.47*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options (Canadian employees).	10-Q	10.8	07/24/14	
10.48	Amendment No. 1 dated April 13, 2015 to Amended and Restated Credit Agreement dated June 7, 2013.	8-K	10.1	04/14/15	
10.49*	Schedules A, B and C (as amended effective November 7, 2016) to CA, Inc. Change in Control Severance Policy.	8-K	10. 2	11/07/16	

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	Filed or Furnished Herewith
10.50*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards (special retirement vesting).	10-K	10.63	05/08/15	
10.51	Term Loan Agreement dated October 20, 2015.	10-Q	10.3	10/22/15	
10.52	Share Repurchase Agreement, dated November 17, 2015 by and between CA, Inc. and Careal Holding AG.	8-K	10.1	11/18/15	
10.53*	Form of Transitional Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-K	10.56	05/11/12	
10.54*	Letter dated June 30, 2015 from the Company to Ayman Sayed regarding terms of employment.	10-Q	10.1	07/28/16	
10.55*	Separation Agreement and General Claims Release, dated September 26, 2016, between the Company and Richard J. Beckert.	8-K	10.1	09/27/16	
10.56*	Letter, dated July 22, 2016, between the Company and Kieran J. McGrath.	10-Q	10.2	10/28/16	
10.57*	Employment Letter, dated as of November 4, 2016, between the Company and Kieran J. McGrath.	8-K	10.1	11/07/16	
10.58*	Form of Transitional Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-K	10.56	05/11/12	
12	Statement of Ratios of Earnings to Fixed Charges.				X
21	Subsidiaries of the Registrant.				X
23	Consent of Independent Registered Public Accounting Firm.				X
24	Power of Attorney.				X
31.1	Certification of the CEO pursuant to §302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of the CFO pursuant to §302 of the Sarbanes-Oxley Act of 2002.				X
32†	Certification pursuant to §906 of the Sarbanes-Oxley Act of 2002.				X
101	The following financial statements from CA, Inc.'s Annual Report on Form 10-K for the year ended March 31, 2017, formatted in XBRL (eXtensible Business Reporting Language):				X
	(i) Consolidated Balance Sheets - March 31, 2017 and March 31, 2016.				
	(ii) Consolidated Statements of Operations - Years Ended March 31, 2017, 2016 and 2015.				
	(iii) Consolidated Statements of Comprehensive Income - Years Ended March 31, 2017, 2016 and 2015.				
	(iv) Consolidated Statements of Stockholders' Equity - Years Ended March 31, 2017, 2016 and 2015.				
	(v) Consolidated Statements of Cash Flows - Years Ended March 31, 2017, 2016 and 2015.				
	(vi) Notes to Consolidated Financial Statements - March 31, 2017.				

‡ Certain schedules referenced in this agreement have been omitted in accordance with Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule will be furnished supplementally to the U.S. Securities and Exchange Commission upon request.

* Management contract or compensatory plan or arrangement

† Furnished herewith

Signatures

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

CA, INC.

By: /s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer

Dated: May 12, 2017

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

By: /s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

By: /s/ Anthony J. Radesca

Anthony J. Radesca
Senior Vice President, Chief Accounting Officer
(Principal Accounting Officer)

Dated: May 12, 2017

Signatures

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

* Jens Alder	Director
* Raymond J. Bromark	Director
* Michael P. Gregoire	Director
* Rohit Kapoor	Director
* Jeffrey G. Katz	Director
* Kay Koplovitz	Director
* Christopher B. Lofgren	Director
* Richard Sulpizio	Director
* Laura S. Unger	Director
* Arthur F. Weinbach	Director
* Renato (Ron) Zambonini	Director

*By: /s/ Michael C. Bisignano
Michael C. Bisignano
Attorney-in-fact

Dated: May 12, 2017

CA, Inc. and Subsidiaries

New York, New York

Annual Report on Form 10-K Item 8, Item 9A, Item 15(a)(1) and (2), and Item 15(c)

List of Consolidated Financial Statements and Financial Statement Schedule

Consolidated Financial Statements and Financial Statement Schedule

Year ended March 31, 2017

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and, therefore, have been omitted.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

CA, Inc.:

We have audited the accompanying consolidated balance sheets of CA, Inc. and subsidiaries as of March 31, 2017 and 2016 , and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the fiscal years in the three-year period ended March 31, 2017 . In connection with our audits of the consolidated financial statements, we also have audited the consolidated financial statement schedule listed in Item 15(c). We also have audited CA, Inc.'s internal control over financial reporting as of March 31, 2017 , based on criteria established in *Internal Control — Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). CA, Inc.'s management is responsible for these consolidated financial statements and the consolidated financial statement schedule, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting under Item 9A(b). Our responsibility is to express an opinion on these consolidated financial statements and the consolidated financial statement schedule, and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of CA, Inc. and subsidiaries as of March 31, 2017 and 2016 , and the results of their operations and their cash flows for each of the fiscal years in the three-year period ended March 31, 2017 , in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related consolidated financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

Also, in our opinion, CA, Inc. maintained, in all material respects, effective internal control over financial reporting as of March 31, 2017 , based on criteria established in *Internal Control — Integrated Framework* (2013) issued by COSO.

/s/ KPMG LLP

New York, New York

May 12, 2017

CA, Inc. and Subsidiaries
Consolidated Balance Sheets

	March 31,	
(in millions, except share amounts)	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	$ 2,771	$ 2,812
Trade accounts receivable, net	764	625
Other current assets	198	124
Total current assets	$ 3,733	$ 3,561
Property and equipment, net of accumulated depreciation of $841 and $832, respectively	$ 237	$ 242
Goodwill	6,857	6,086
Capitalized software and other intangible assets, net	1,307	795
Deferred income taxes	327	407
Other noncurrent assets, net	149	113
Total assets	$ 12,610	$ 11,204
Liabilities and stockholders' equity		
Current liabilities:		
Current portion of long-term debt	$ 18	$ 6
Accounts payable	91	77
Accrued salaries, wages and commissions	256	205
Accrued expenses and other current liabilities	326	352
Deferred revenue (billed or collected)	2,222	2,197
Taxes payable, other than income taxes payable	63	55
Federal, state and foreign income taxes payable	30	2
Total current liabilities	$ 3,006	$ 2,894
Long-term debt, net of current portion	$ 2,773	$ 1,947
Federal, state and foreign income taxes payable	131	148
Deferred income taxes	119	3
Deferred revenue (billed or collected)	794	737
Other noncurrent liabilities	98	97
Total liabilities	$ 6,921	$ 5,826
Stockholders' equity:		
Preferred stock, no par value, 10,000,000 shares authorized; No shares issued and outstanding	$ —	$ —
Common stock, $0.10 par value, 1,100,000,000 shares authorized; 589,695,081 and 589,695,081 shares issued; 413,409,346 and 412,596,452 shares outstanding, respectively	59	59
Additional paid-in capital	3,702	3,664
Retained earnings	6,923	6,575
Accumulated other comprehensive loss	(483)	(416)
Treasury stock, at cost, 176,285,735 and 177,098,629 shares, respectively	(4,512)	(4,504)
Total stockholders' equity	$ 5,689	$ 5,378
Total liabilities and stockholders' equity	$ 12,610	$ 11,204

See accompanying Notes to the Consolidated Financial Statements

CA, Inc. and Subsidiaries
Consolidated Statements of Operations

	Year Ended March 31,		
(in millions, except per share amounts)	2017	2016	2015
Revenue:			
Subscription and maintenance	$ 3,279	$ 3,317	$ 3,560
Professional services	301	326	351
Software fees and other	456	382	351
Total revenue	$ 4,036	$ 4,025	$ 4,262
Expenses:			
Costs of licensing and maintenance	$ 273	$ 283	$ 297
Cost of professional services	300	300	338
Amortization of capitalized software costs	243	256	273
Selling and marketing	1,028	1,006	1,060
General and administrative	375	367	377
Product development and enhancements	586	560	603
Depreciation and amortization of other intangible assets	77	106	129
Other expenses, net	19	12	23
Total expenses before interest and income taxes	$ 2,901	$ 2,890	$ 3,100
Income from continuing operations before interest and income taxes	$ 1,135	$ 1,135	$ 1,162
Interest expense, net	62	51	47
Income from continuing operations before income taxes	$ 1,073	$ 1,084	$ 1,115
Income tax expense	298	315	305
Income from continuing operations	$ 775	$ 769	$ 810
Income from discontinued operations, net of income taxes	—	14	36
Net income	$ 775	$ 783	$ 846
Basic income per common share:			
Income from continuing operations	$ 1.85	$ 1.79	$ 1.83
Income from discontinued operations	—	0.03	0.08
Net income	$ 1.85	$ 1.82	$ 1.91
Basic weighted average shares used in computation	414	426	439
Diluted income per common share:			
Income from continuing operations	$ 1.85	$ 1.78	$ 1.82
Income from discontinued operations	—	0.03	0.08
Net income	$ 1.85	$ 1.81	$ 1.90
Diluted weighted average shares used in computation	415	427	441

See accompanying Notes to the Consolidated Financial Statements

CA, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income

	Year Ended March 31,		
(in millions)	2017	2016	2015
Net income	$ 775	$ 783	$ 846
Other comprehensive (loss) income:			
Foreign currency translation adjustments	(67)	2	(247)
Total other comprehensive (loss) income	$ (67)	$ 2	$ (247)
Comprehensive income	$ 708	$ 785	$ 599

See accompanying Notes to the Consolidated Financial Statements

CA, Inc. and Subsidiaries
Consolidated Statements of Stockholders' Equity

(in millions, except per share amounts)	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock	Total Stockholders' Equity
Balance at March 31, 2014	$ 59	$ 3,610	$ 5,818	$ (171)	$ (3,746)	$ 5,570
Net income			846			846
Other comprehensive loss				(247)		(247)
Comprehensive income						599
Share-based compensation		87				87
Dividends declared			(444)			(444)
Release of restricted stock, exercise of common stock options, ESPP and other items		(66)	1		93	28
Treasury stock purchased					(215)	(215)
Balance at March 31, 2015	$ 59	$ 3,631	$ 6,221	$ (418)	$ (3,868)	$ 5,625
Net income			783			783
Other comprehensive income				2		2
Comprehensive income						785
Share-based compensation		97				97
Dividends declared			(429)			(429)
Release of restricted stock, exercise of common stock options, ESPP and other items		(64)			71	7
Treasury stock purchased					(707)	(707)
Balance at March 31, 2016	$ 59	$ 3,664	$ 6,575	$ (416)	$ (4,504)	$ 5,378
Net income			775			775
Other comprehensive loss				(67)		(67)
Comprehensive income						708
Share-based compensation		108				108
Dividends declared			(428)			(428)
Release of restricted stock, exercise of common stock options, ESPP and other items		(70)	1		92	23
Treasury stock purchased					(100)	(100)
Balance at March 31, 2017	$ 59	$ 3,702	$ 6,923	$ (483)	$ (4,512)	$ 5,689

See accompanying Notes to the Consolidated Financial Statements

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CA, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

	Year Ended March 31,		
(in millions)	2017	2016	2015
Operating activities from continuing operations:			
Net income	$ 775	$ 783	$ 846
Income from discontinued operations	—	(14)	(36)
Income from continuing operations	$ 775	$ 769	$ 810
Adjustments to reconcile income from continuing operations to net cash provided by operating activities:			
Depreciation and amortization	320	362	402
Deferred income taxes	(21)	(115)	(72)
Provision for bad debts	4	—	3
Share-based compensation expense	108	97	87
Other non-cash items	5	—	5
Foreign currency transaction (gains) losses	(4)	4	(2)
Changes in other operating assets and liabilities, net of effect of acquisitions:			
(Increase) decrease in trade accounts receivable	(85)	54	79
Increase (decrease) in deferred revenue	24	(105)	(138)
(Decrease) increase in taxes payable, net	(110)	28	(98)
Decrease in accounts payable, accrued expenses and other	(25)	(62)	(9)
Increase (decrease) in accrued salaries, wages and commissions	32	(18)	(40)
Changes in other operating assets and liabilities	16	20	3
Net cash provided by operating activities - continuing operations	$ 1,039	$ 1,034	$ 1,030
Investing activities from continuing operations:			
Acquisitions of businesses, net of cash acquired, and purchased software	$ (1,288)	$ (648)	$ (38)
Purchases of property and equipment	(47)	(48)	(53)
Proceeds from sale of short-term investments	—	48	—
Other investing activities	(2)	3	—
Net cash used in investing activities - continuing operations	$ (1,337)	$ (645)	$ (91)
Financing activities from continuing operations:			
Dividends paid	$ (428)	$ (429)	$ (444)
Purchases of common stock	(100)	(707)	(215)
Notional pooling borrowings	2,374	3,899	5,371
Notional pooling repayments	(2,351)	(3,877)	(5,207)
Debt borrowings	850	1,100	—
Debt repayments	(6)	(409)	(508)
Debt issuance costs	(5)	(4)	—
Exercise of common stock options	26	8	26
Other financing activities	—	(24)	—
Net cash provided by (used in) financing activities - continuing operations	$ 360	$ (443)	$ (977)
Effect of exchange rate changes on cash	$ (103)	$ 24	$ (532)
Net change in cash and cash equivalents - continuing operations	$ (41)	$ (30)	$ (570)
Cash used in operating activities - discontinued operations	$ —	$ (12)	$ (48)
Cash provided by investing activities - discontinued operations	—	50	170
Net effect of discontinued operations on cash and cash equivalents	$ —	$ 38	$ 122
(Decrease) increase in cash and cash equivalents	$ (41)	$ 8	$ (448)
Cash and cash equivalents at beginning of period	$ 2,812	$ 2,804	$ 3,252
Cash and cash equivalents at end of period	$ 2,771	$ 2,812	$ 2,804

See accompanying Notes to the Consolidated Financial Statements

Notes to the Consolidated Financial Statements

Note 1 — Significant Accounting Policies

(a) Description of Business: CA, Inc. and subsidiaries (the Company) develops, markets, delivers and licenses software products and services.

(b) Presentation of Financial Statements: The accompanying audited Consolidated Financial Statements of the Company have been prepared in accordance with U.S. generally accepted accounting principles (GAAP), as defined in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 205. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Although these estimates are based on management's knowledge of current events and actions it may undertake in the future, these estimates may ultimately differ from actual results. Significant items subject to such estimates and assumptions include: (i) the useful lives and expected future cash flows of long-lived assets, including capitalized software costs and other intangibles, (ii) allowances for doubtful accounts, (iii) the valuation of derivatives, deferred tax assets and assets acquired in business combinations, (iv) share-based compensation, (v) reserves for employee severance benefit obligations, (vi) income tax uncertainties, (vii) legal contingencies and (viii) the fair value of the Company's reporting units.

(c) Principles of Consolidation: The Consolidated Financial Statements include the accounts of the Company and its majority-owned and controlled subsidiaries. Investments in affiliates owned 50% or less are accounted for by the equity method. Intercompany balances and transactions have been eliminated in consolidation.

(d) Acquisitions: Companies acquired during each reporting period are reflected in the results of the Company effective from their respective dates of acquisition through the end of the reporting period. The Company applies the provisions of FASB ASC Topic 805, *Business Combinations* , in the accounting for its acquisitions. It requires the Company to recognize separately from goodwill the assets acquired and the liabilities assumed at the acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed. While the Company uses its best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, the estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company records adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company's Consolidated Statements of Operations. Refer to Note 2, "Acquisitions," for additional information.

(e) Divestitures: In the fourth quarter of fiscal year 2016, the Company sold its CA ERwin Data Modeling solution assets (ERwin). In the second quarter of fiscal year 2015, the Company sold its CA arcserve data protection solution assets (arcserve). The results of operations associated with these businesses have been presented as discontinued operations in the accompanying Consolidated Statements of Operations and Consolidated Statements of Cash Flows for fiscal years 2016 and 2015. Refer to Note 3, "Divestitures," for additional information.

(f) Foreign Currencies: In general, the functional currency of the Company's foreign subsidiaries is the local country's currency. Assets and liabilities of the Company's foreign subsidiaries are translated using the exchange rates in effect at the balance sheet date. Results of operations are translated using average exchange rates. Adjustments arising from the translation of the foreign currency financial statements of the Company's subsidiaries into U.S. dollars are reported as currency translation adjustments in "Accumulated other comprehensive loss" in the Consolidated Balance Sheets.

Foreign currency transaction (gains) losses were approximately $(2) million , $26 million and $(14) million in fiscal years 2017 , 2016 and 2015 , respectively, and were included in "Other expenses, net" in the Consolidated Statements of Operations in the period in which they occurred. For fiscal year 2016, other expenses, net included a foreign currency transaction loss of approximately $11 million relating to the remeasurement of monetary assets and liabilities of the Company's Argentina subsidiary. For fiscal year 2015, other expenses, net included a foreign currency transaction loss of approximately $14 million relating to the remeasurement of monetary assets and liabilities of the Company's Venezuela subsidiary.

(g) Revenue Recognition: The Company derives revenues primarily from the licensing of subscription, time-based and perpetual software licenses, related software maintenance, professional services and the use of the Company's hosted software as a service (SaaS) offerings.

The Company begins to recognize revenue from software licensing and maintenance when all of the following criteria are met: (1) the Company has evidence of an arrangement with a customer; (2) the Company delivers the specified products; (3) license agreement terms are fixed or determinable and free of contingencies or uncertainties that may alter the agreement such that it may not be complete and final; and (4) collection is probable. Revenue is recorded net of applicable sales taxes.

The Company's software licenses generally do not include acceptance provisions. An acceptance provision allows a customer to test the software for a defined period of time before committing to license the software. If a license agreement includes an acceptance provision, the Company does not recognize revenue until the earlier of the receipt of a written customer acceptance or when the acceptance right lapses. The Company's standard licensing agreements include a product warranty provision for all products. The likelihood that the Company will be required to make refunds to customers under such provisions is considered remote.

Subscription and Maintenance Revenue: Software licenses that include the right to receive unspecified future software products are considered subscription arrangements under GAAP and are recognized ratably over the term of the license agreement. Subscription and maintenance revenue is the amount of revenue recognized ratably during the reporting period from either: (i) software usage fees and product sales that include subscription agreements and also generally include maintenance; (ii) maintenance agreements associated with providing customer technical support and access to software fixes and upgrades which are separately identifiable from software usage fees or product sales; or (iii) software license agreements bundled with elements (*i.e.,* maintenance or professional services) for which vendor specific objective evidence (VSOE) has not been established. Revenue for these arrangements is recognized ratably over the term of the subscription or maintenance term.

Professional Services: Revenue from professional services arrangements is generally recognized as the services are performed. Revenue and costs from committed professional services that are sold as part of a subscription license agreement are deferred and recognized on a ratable basis over the term of the related software agreement. VSOE of professional services is established based on hourly rates when sold on a stand-alone basis. If it is not probable that a project will be completed or the payment will be received, revenue recognition is deferred until the uncertainty is removed.

Software Fees and Other: Software fees and other revenue consists primarily of revenue from the sale of perpetual software licenses that do not include the right to unspecified software products (*i.e.* , a subscription agreement) in a bundled arrangement where VSOE exists for all undelivered elements, and revenue from SaaS offerings. For bundled arrangements that include either maintenance or both maintenance and professional services, the Company uses the residual method to determine the amount of license revenue to be recognized. Under the residual method, consideration is allocated to undelivered elements based upon VSOE of those elements, with the residual of the arrangement fee allocated to and recognized as license revenue. The Company determines VSOE of maintenance for its enterprise solutions products from contractually stated renewal rates.

In the event that agreements with the Company's customers are executed in close proximity with other software license agreements with the same customer, the Company evaluates whether the separate arrangements are linked, and, if so, the agreements are considered a single multi-element arrangement for which revenue is recognized ratably as "Subscription and maintenance" in the Consolidated Statements of Operations, except for SaaS and professional services agreements. In the case of a SaaS agreement that is linked to a subscription-based software license arrangement, revenue is recognized ratably as "Software fees and other" for its respective portion, in the Consolidated Statements of Operations. In the case of a professional services agreement that is linked to a subscription-based software license arrangement, revenue is recognized as "Professional services" for its respective portion, in the Consolidated Statements of Operations.

(h) Sales Commissions: Sales commissions are recognized in the period the commissions are earned by employees, which is typically upon signing of the contract. Under the Company's sales commissions policy, the amount of sales commissions expense attributable to the license agreements signed in the period is recognized fully, but the revenue from the license agreements may be recognized ratably over the subscription and maintenance term.

(i) Accounting for Share-Based Compensation: Share-based awards exchanged for employee services are accounted for under the fair value method. Accordingly, share-based compensation cost is measured at the grant date based on the fair value of the award. The expense for awards expected to vest is recognized over the employee's requisite service period (generally the vesting period of the award). Awards expected to vest are estimated based on a combination of historical experience and future expectations.

The Company has elected to treat awards with only service conditions and with graded vesting as one award. Consequently, the total compensation expense is recognized straight-line over the entire vesting period, so long as the compensation cost recognized at any date at least equals the portion of the grant date fair value of the award that is vested at that date.

The Company uses the Black-Scholes option-pricing model to compute the estimated fair value of share-based awards in the form of options. The Black-Scholes model includes assumptions regarding dividend yields, expected volatility, expected term of the option and risk-free interest rates.

In addition to stock options, restricted share awards (RSAs) and restricted share units (RSUs) with time-based vesting, the Company issues performance share units (PSUs). Compensation costs for the PSUs are amortized over the requisite service periods based on the expected level of achievement of the performance targets. At the conclusion of the performance periods, the applicable number of shares of RSAs, RSUs or unrestricted shares granted may vary based on the level of achievement of the performance targets. Additionally, the grants are subject to the approval of the Company's Compensation and Human Resources Committee of the Board of Directors (the Compensation Committee), which has discretion to reduce any award for any reason. The value of the PSU awards is remeasured each reporting period until the Compensation Committee approves attainment of the specified performance targets, at which time a grant date is deemed to have been achieved for accounting purposes, the value of the award is fixed and any remaining unrecognized compensation expense is recognized over the remaining time-based vesting period. Refer to Note 14, "Stock Plans," for additional information.

(j) Net Income Per Common Share: Unvested share-based payment awards that contain non-forfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities and are included in the computation of net income per share under the two-class method. Under the two-class method, net income is reduced by the amount of dividends declared in the period for each class of common stock and participating securities. The remaining undistributed income is then allocated to common stock and participating securities as if all of the net income for the period had been distributed. Basic net income per common share excludes dilution and is calculated by dividing net income allocable to common shares by the weighted average number of common shares outstanding for the period. Diluted net income per common share is calculated by dividing net income allocable to common shares by the weighted average number of common shares outstanding at the balance sheet date, as adjusted for the potential dilutive effect of non-participating share-based awards. Refer to Note 13, "Income from Continuing Operations Per Common Share," for additional information.

(k) Concentration of Credit Risk: Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of cash and cash equivalents, investments, derivatives and accounts receivable. The Company historically has not experienced any material losses in its cash and cash equivalent or investment portfolios.

Amounts included in accounts receivable expected to be collected from customers, as disclosed in Note 5, "Trade Accounts Receivable," have limited exposure to concentration of credit risk due to the diverse customer base and geographic areas covered by operations.

(l) Cash and Cash Equivalents: All financial instruments purchased with an original maturity of three months or less at the time of purchase are considered cash equivalents. The Company's cash and cash equivalents are held by its subsidiaries throughout the world, frequently in each subsidiary's respective functional currency which may not be the U.S. dollar. Approximately 60% and 76% of cash and cash equivalents were maintained outside the United States at March 31, 2017 and 2016 , respectively.

Total interest income, which primarily relates to the Company's cash and cash equivalent balances and investments, for fiscal years 2017 , 2016 and 2015 was approximately $28 million , $30 million and $30 million , respectively, and is included in "Interest expense, net" in the Consolidated Statements of Operations.

(m) Fair Value Measurements: Fair value is the price that would be received for an asset or the amount paid to transfer a liability in an orderly transaction between market participants. The Company is required to classify certain assets and liabilities based on the following fair value hierarchy:

- Level 1: Quoted prices in active markets that are unadjusted and accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2: Quoted prices for identical assets and liabilities in markets that are not active, or quoted prices for similar assets and liabilities in active markets or financial instruments for which significant inputs are observable, either directly or indirectly; and
- Level 3: Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

Refer to Note 10, "Fair Value Measurements," for additional information.

(n) Long-Lived Assets:

Impairment of Long-Lived Assets, Excluding Goodwill and Other Intangibles: Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group be tested for possible impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying value. If the carrying value of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent that the carrying value exceeds its fair value. Fair value is determined through various valuation techniques including discounted cash flow models or, when available, quoted market values and third-party appraisals.

Property and Equipment: Property and equipment are stated at cost. Depreciation and amortization expense is calculated based on the estimated useful lives of the assets, and is recognized by using the straight-line method. Building and improvements are generally estimated to have 5 to 39 year lives, and the remaining property and equipment are generally estimated to have 3 to 7 year lives.

Internally Developed Software Products: Internally developed software products, which are included in "Capitalized software and other intangible assets, net" in the Consolidated Balance Sheets, consist of capitalized costs associated with the development of computer software to be sold, leased or otherwise marketed. Software development costs associated with new products and significant enhancements to existing software products are expensed as incurred until technological feasibility, as defined in FASB ASC Topic 985-20, has been established. Costs incurred thereafter are capitalized until the product is made generally available. The stage during the Company's development process for a new product or new release at which technological feasibility requirements are established affects the amount of costs capitalized. Since fiscal year 2014, the Company has continued to leverage Agile development methodologies, which are characterized by a more dynamic development process with more frequent revisions to a product release's features and functions as the software is being developed with technological feasibility being met shortly before the product revision is made generally available. As such, no amounts were capitalized for internally developed software costs in the Company's consolidated financial statements for fiscal years 2017 , 2016 and 2015 .

Annual amortization of internally developed software products is the greater of the amount computed using the ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that product or the straight-line method over the remaining estimated economic life of the software product, generally estimated to be 5 years from the date the product became available for general release to customers. The Company generally recognizes amortization expense for capitalized software costs using the straight-line method, and such amortization is included in "Amortization of capitalized software costs" in the Consolidated Statements of Operations. Internally developed software products are reviewed for impairment quarterly and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Purchased Software Products: Purchased software products, which is included in "Capitalized software and other intangible assets, net" in the Consolidated Balance Sheets, consist primarily of the cost of software technology acquired in business combinations. The cost of such products is equal to the fair value of the acquired software technology at the acquisition date. Annual amortization of purchased software products is the greater of the amount computed using the ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that product or the straight-line method over the remaining estimated economic life of the software product. The Company generally amortizes capitalized software costs using the straight-line method over their remaining economic lives, estimated to be between 2 and 10 years from the date of acquisition, and such amortization is included in "Amortization of capitalized software costs" in the Consolidated Statements of Operations. Purchased software products are reviewed for impairment quarterly and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Other Intangible Assets: Other intangible assets, which is included in "Capitalized software and other intangible assets, net" in the Consolidated Balance Sheets, consist of customer relationships and trademarks/trade names. The Company generally amortizes all other intangible assets using the straight-line method over their remaining economic lives, estimated to be between 1 and 15 years from the date of acquisition, and such amortization is included in "Depreciation and amortization of other intangible assets" in the Consolidated Statements of Operations. Other intangible assets subject to amortization are reviewed for impairment quarterly and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Goodwill: Goodwill represents the excess of the purchase price over the fair value of net assets acquired in connection with business combinations accounted for using the purchase method of accounting. Goodwill is not amortized, but instead goodwill is required to be tested for impairment annually and under certain circumstances. The Company reviews goodwill for impairment on an annual basis on the first day of the fourth quarter of each fiscal year, and on an interim basis whenever events or changes in circumstances indicate that the carrying value may not be recoverable, at the reporting unit level. The Company's reporting units are the same as its operating segments.

When evaluating goodwill for impairment, based upon the Company's annual test or due to changes in circumstances described above, the Company first can opt to perform a qualitative assessment to determine if the fair value of a reporting unit is more likely than not (*i.e.* , a likelihood of more than 50%) less than the reporting unit's carrying amount, including goodwill, or it can directly perform the two-step impairment test. This qualitative assessment includes, among other things, consideration of: (i) identifying inputs and assumptions that most affect fair value; (ii) identifying relevant events and circumstances that may have an impact on those inputs and assumptions; (iii) weighing the events and circumstances; and (iv) concluding on the totality of events and circumstances. If this assessment indicates that the fair value of the reporting unit exceeds the carrying value of the net assets assigned to that unit, goodwill is not considered impaired and the Company is not required to perform further testing. However, if the fair value of a reporting unit is more likely than not to be less than its carrying amount, the two-step impairment test will be performed.

When performing the two-step impairment test, the Company first determines the estimated fair value of its reporting units using the income approach. Under the income approach, the Company calculates the estimated fair value of a reporting unit based on the present value of estimated future cash flows. If the carrying value of the reporting unit exceeds the estimated fair value, the Company then calculates the implied fair value of goodwill for the reporting unit and compares it to the carrying amount of goodwill for the reporting unit. If the carrying amount of goodwill exceeds the implied fair value, an impairment charge is recorded to its statement of operations to reduce the carrying value to implied value.

Significant judgments and estimates are required in determining the reporting units and assessing the fair value of the reporting units. These estimates and assumptions are complex and subject to a significant degree of judgment with respect to certain factors including, but not limited to, revenue growth rates and operating profit margins that are used to project future cash flows, discount rates, future economic and market conditions and determination of appropriate market comparables. The Company makes certain judgments and assumptions in allocating shared costs among reporting units. The Company bases its fair value estimates on assumptions that are consistent with information used by the business for planning purposes and that it believes to be reasonable; however, actual future results may differ from those estimates. Changes in judgments on any of these factors could materially affect the value of the reporting unit.

Refer to Note 6, “Long-Lived Assets,” for additional information.

(o) Income Taxes: Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities from a change in tax rates is recognized in income in the period that includes the enactment date.

The Company recognizes the effect of income tax positions only if those positions are more likely than not to be sustained. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest and penalties related to uncertain tax positions in income tax expense. Refer to Note 15, “Income Taxes,” for additional information.

(p) Deferred Revenue (Billed or Collected): The Company accounts for unearned revenue on billed amounts due from customers on a gross basis. Unearned revenue on billed installments (collected or uncollected) is reported as deferred revenue in the liability section of the Company's Consolidated Balance Sheets.

Deferred revenue (billed or collected) excludes unbilled contractual commitments executed under license and maintenance agreements that will be billed in future periods. Refer to Note 7, “Deferred Revenue,” for additional information.

(q) Advertising: Advertising costs are expensed as incurred. Advertising expense was approximately $37 million , $35 million and $39 million , which was included in “Selling and marketing” in the Consolidated Statements of Operations, for fiscal years 2017 , 2016 and 2015 , respectively.

(r) Litigation: The Company records a provision with respect to a claim, suit, investigation or proceeding when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Claims and proceedings are reviewed at least quarterly and provisions are taken or adjusted to reflect the impact and status of settlements, rulings, advice of counsel and other information pertinent to a particular matter. Refer to Note 11, “Commitments and Contingencies,” for additional information.

(s) New Accounting Pronouncements Not Yet Adopted

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* , with amendments in 2015 and 2016, which creates new ASC Topic 606 (Topic 606) that will replace most existing revenue recognition guidance in GAAP when it becomes effective. Topic 606 requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The new standard will be effective for the Company's first quarter of fiscal year 2019 and early application for fiscal year 2018 is permitted. Topic 606 may be applied retrospectively to each prior period presented (full retrospective method) or with the cumulative effect recognized as of the date of initial application (modified retrospective method).

Given the scope of work required to implement the recognition and disclosure requirements under the new standard, the Company has established a cross-functional implementation team consisting of representatives across the organization and a third-party service provider. This cross-functional implementation team has developed a project plan, including evaluating customer contracts across the organization, developing policies, processes and tools to report financial results, and implementing and evaluating the Company's internal controls over financial reporting that will be necessary under the new standard. The Company currently plans to adopt Topic 606 in the first quarter of fiscal year 2019 and is still evaluating the transition method it will utilize.

While the Company is continuing to determine the full effect of the new standard, it currently anticipates that this standard will have a material effect on its consolidated financial statements and believes the most significant effect relates to the timing of the recognition of its software license revenue. Specifically, under the new standard, the Company currently expects to recognize license revenue for its Mainframe Solutions and Enterprise Solutions products at the point in time the licensed software is transferred to the customer, rather than ratably over the term of the customer contract as required by existing GAAP for most of the Company's software arrangements. The Company also currently believes that the point in time recognition requirement of the new standard will increase the variability of its revenue period to period. The Company does not currently expect Topic 606 to have a significant effect on the timing of revenue recognition for its maintenance, SaaS and professional services contracts. In addition, the Company does not currently expect Topic 606 to have a significant effect on its customer billings and cash collections from customer billings. The Company is currently evaluating the effect on cash tax payments. Under Topic 606, more judgment and estimates will be required within the revenue recognition process than are required under existing GAAP, including estimates of the standalone selling price for each performance obligation identified within the Company's contracts. The Company is also currently evaluating the effect of the requirement to capitalize a portion of its sales commissions and other incremental costs to acquire contracts upon adoption, which are currently expensed as incurred.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), *Leases* (Topic 842), which requires a lessee to recognize assets and liabilities on its consolidated balance sheet for leases with accounting lease terms of more than 12 months. ASU 2016-02 will replace most existing lease accounting guidance in GAAP when it becomes effective. The new standard states that a lessee will recognize a lease liability for the obligation to make lease payments and a right-of-use asset for the right to use the underlying asset for the lease term. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the consolidated statements of operations. ASU 2016-02 will be effective for the Company's first quarter of fiscal year 2020 and requires the modified retrospective method of adoption. Early adoption is permitted. Although the Company is currently evaluating the timing of adoption and the effect that ASU 2016-02 will have on its consolidated financial statements and related disclosures, the Company currently expects that most of its operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon adoption.

In March 2016, the FASB issued Accounting Standards Update No. 2016-09 (ASU 2016-09), *Improvements to Employee Share-Based Payment Accounting* (Topic 718), which is intended to simplify several aspects of the accounting for share-based payment award transactions, including the income tax consequences and classification on the statements of cash flows. ASU 2016-09 will be effective for the Company's first quarter of fiscal year 2018 and early adoption is permitted. The Company currently plans on adopting ASU 2016-09 in the first quarter of fiscal year 2018. The most significant aspect of this standard for the Company when adopted relates to the presentation of cash flows for employee taxes paid by withholding shares of restricted stock as a financing activity within the Consolidated Statements of Cash Flows, which has been historically presented as an operating activity and was approximately $35 million , $28 million and $27 million for fiscal years 2017, 2016 and 2015, respectively. This update from ASU 2016-09 requires a retrospective method of adoption. All other aspects of ASU 2016-09 are not currently expected to have a material effect on the Company's consolidated financial statements and related disclosures.

In August 2016, the FASB issued Accounting Standards Update No. 2016-15 (ASU 2016-15), *Classification of Certain Cash Receipts and Cash Payments* (Topic 230), which is intended to reduce diversity in practice on how certain cash receipts and cash payments are classified and presented in the statements of cash flows. In November 2016, the FASB issued Accounting Standards Update No. 2016-18 (ASU 2016-18), *Restricted Cash* (Topic 230), which is intended to reduce diversity in practice on how changes in restricted cash are classified and presented in the statements of cash flows. ASU 2016-18 requires amounts generally described as restricted cash to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statements of cash flows. Both ASU 2016-15 and ASU 2016-18 will be effective for the Company's first quarter of fiscal year 2019 and require a retrospective transition method of adoption. Early adoption is permitted. The Company currently anticipates adopting ASU 2016-15 and ASU 2016-18 in the first quarter of fiscal year 2018. The Company does not currently expect the adoption of these standards to have a material effect on its consolidated financial statements and related disclosures.

In October 2016, the FASB issued Accounting Standards Update No. 2016-16 (ASU 2016-16), *Intra-Equity Transfers of Assets Other Than Inventory* (Topic 740), which is intended to eliminate diversity in practice and provide a more accurate depiction of the tax consequences on intercompany asset transfers (excluding inventory). ASU 2016-16 requires entities to immediately recognize the tax consequences on intercompany asset transfers (excluding inventory) at the transaction date, rather than deferring the tax consequences under current GAAP. ASU 2016-16 will be effective for the Company's first quarter of fiscal year 2019 and requires a modified retrospective method of adoption. Early adoption is permitted, but only in the first quarter of an entity's annual fiscal year. The Company is currently evaluating the timing of adoption and the effect that ASU 2016-16 will have on its consolidated financial statements and related disclosures.

In January 2017, the FASB issued Accounting Standards Update No. 2017-04 (ASU 2017-04), *Simplifying the Test for Goodwill Impairment* (Topic 350), which is intended to simplify the subsequent measurement of goodwill. ASU 2017-04 eliminates Step 2 of the goodwill impairment test, which requires the assessment of fair value of individual assets and liabilities of a reporting unit to measure goodwill impairments. Upon adoption of this new standard, goodwill impairments will be the amount by which a reporting unit's carrying value exceeds its fair value. ASU 2017-04 will be effective for the Company's first quarter of fiscal year 2021 and requires a prospective method of adoption. Early adoption is permitted. The Company is currently evaluating the timing of adoption and the effect that ASU 2017-04 will have on its consolidated financial statements and related disclosures.

Note 2 — Acquisitions

On October 11, 2016, the Company acquired BlazeMeter Ltd. (BlazeMeter), a privately-held provider of open source-based continuous application performance testing. BlazeMeter will integrate with the Company's continuous delivery solutions to further improve testing efficiency and accelerate the deployment of applications. The acquisition of BlazeMeter was not material to the Company's financial position or results of operations for fiscal year 2017. The results of operations of BlazeMeter are reported predominantly in the Company's Enterprise Solutions segment and were included in the consolidated results of operations of the Company from the date of acquisition.

On January 18, 2017, the Company completed its acquisition of Automic Holding GmbH (Automic), a privately-held provider of business process and IT automation software. With Automic, the Company added new cloud-enabled automation and orchestration capabilities across its portfolio and increased its ability to reach into the European market. The Company acquired 100% of the voting equity interest in Automic for approximately 630 million euros (which translated to approximately $675 million at January 18, 2017). The results of operations of Automic are reported predominantly in the Company's Enterprise Solutions segment and were included in the consolidated results of operations of the Company from the date of acquisition.

On March 31, 2017, the Company completed its acquisition of Veracode, Inc. (Veracode), a privately-held provider of cloud-based security testing solutions for web, mobile and third-party applications across the software development lifecycle. With Veracode, the Company bridges its Security business with its broad DevOps portfolio and adds to its growing SaaS business. The Company acquired 100% of the voting equity interest in Veracode for approximately $618 million in cash. The results of operations of Veracode will be reported predominantly in the Company's Enterprise Solutions segment.

The purchase price allocation for Automic and Veracode is provided within the table below.

(dollars in millions)	Automic	Veracode	Estimated Useful Life
Finite-lived intangible assets [1]	$ 174	$ 93	2-15 years
Purchased software	273	211	3-8 years
Goodwill	312	429	Indefinite
Deferred tax liabilities, net	(115)	(96)	—
Other assets net of other liabilities assumed [2]	31	(19)	—
Purchase price	$ 675	$ 618	

(1) Includes customer relationships and trade names.

(2) Includes approximately $34 million and $16 million of cash acquired from Automic and Veracode, respectively.

The excess purchase price over the estimated value of the net tangible and identifiable intangible assets was recorded to goodwill. The preliminary allocation of the purchase price to goodwill was predominantly due to synergies the Company expects to achieve through integration of the acquired technology with the Company's existing product portfolio and the intangible assets that are not separable, such as assembled workforce and going concern. The goodwill relating to the Company's acquisitions of Automic and Veracode is not expected to be deductible for tax purposes and is allocated to the Enterprise Solutions segment. For Automic, the allocation of purchase price to acquired identifiable assets, including intangible assets, is preliminary because the Company has not yet completed its analysis of Automic's historical tax records. For Veracode, the allocation of purchase price to acquired identifiable assets, including intangible assets, is preliminary due to certain data not yet available, including but not limited to, the valuation of assets acquired and liabilities assumed, and review of tax returns that provide the underlying tax basis of Veracodes's assets and liabilities. Thus the provisional measurements of fair value set forth above for both Automic and Veracode are subject to change. The Company expects to finalize the valuations as soon as practical, but not later than one year from the acquisition dates.

Transaction costs for the Company's fiscal year 2017 acquisitions, which were primarily included in "General and administrative" in the Company's Consolidated Statements of Operations, were approximately $10 million for fiscal year 2017.

The Consolidated Statement of Operations for fiscal year 2017 included total revenue of approximately $25 million since the date of acquisition through March 31, 2017 for the Company's acquisition of Automic. The Consolidated Statement of Operations for fiscal year 2017 included net loss of approximately $2 million since the date of acquisition through March 31, 2017 for the Company's acquisition of Automic. Since Veracode was acquired on the last day of fiscal year 2017, Vericode did not contribute any revenue or operating expenses to the Company's Consolidated Statement of Operations for fiscal year 2017.

The unaudited pro forma combined financial information in the table below summarizes the results of operations for the Company, Automic and Veracode as though the companies were combined as of the beginning of fiscal year 2016. The pro forma financial information presented below is for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisitions had taken place at the beginning of fiscal year 2016, nor does it attempt to represent the results of future operations of the combined entities under the ownership and operation of the Company. The pro forma results of operations also do not include any cost savings or other synergies that may result from these acquisitions or any estimated costs that have been or will be incurred by the Company to integrate the acquired assets.

These pro forma results below were based on estimates and assumptions, which the Company believes are reasonable. The pro forma financial information for all periods presented also includes the business combination accounting effects resulting from these acquisitions, including the amortization charges from acquired intangible assets and other purchase accounting adjustments (certain of which are preliminary), employee retention costs and the related tax effects as though the Company, Automic and Veracode were combined as of the beginning of fiscal year 2016.

	Year Ended March 31,	
(in millions, except per share amounts)	2017	2016
	unaudited	
Total revenue	$ 4,279	$ 4,213
Income from continuing operations	$ 710	$ 655
Basic income from continuing operations per common share	$ 1.70	$ 1.52
Diluted income from continuing operations per common share	$ 1.69	$ 1.51

The pro forma effects of the Company's other fiscal year 2017 acquisitions on the Company's revenues and results of operations during fiscal years 2017 and 2016 were considered immaterial.

On July 8, 2015, the Company completed its acquisition of Rally Software Development Corp. (Rally), a provider of Agile development software and services. The acquisition of Rally broadens the Company's solution set and capabilities to better serve customers in the application economy. Pursuant to the terms of the acquisition agreement and related tender offer, the Company acquired 100% of the outstanding shares of Rally common stock for approximately $519 million . The purchase price allocation for Rally, which was finalized during the first quarter of fiscal year 2017, is provided within the table below. The results of operations of Rally are reported predominantly in the Company's Enterprise Solutions segment and were included in the consolidated results of operations of the Company from the date of acquisition.

The purchase price allocation for the Company's other acquisitions during fiscal year 2016, including the second quarter acquisition of Xceedium, Inc. (Xceedium), is included within the "Other Fiscal Year 2016 Acquisitions" column below. The acquisition of Xceedium and the Company's other acquisitions during fiscal year 2016 were immaterial, both individually and in the aggregate.

(dollars in millions)	Rally	Other Fiscal Year 2016 Acquisitions	Estimated Useful Life
Finite-lived intangible assets [(1)]	$ 78	$ 14	1-15 years
Purchased software	178	96	5-7 years
Goodwill	257	59	Indefinite
Deferred tax liabilities, net	(45)	(24)	—
Other assets net of other liabilities assumed [(2)]	51	2	—
Purchase price	$ 519	$ 147	

(1) Includes customer relationships and trade names.

(2) Includes approximately $13 million of cash and approximately $48 million of short-term investments acquired relating to Rally.

The excess purchase price over the estimated value of the net tangible and identifiable intangible assets was recorded to goodwill. The allocation of purchase price to goodwill was predominantly due to synergies the Company expects to achieve through integration of the acquired technology with the Company's existing product portfolio and the intangible assets that are not separable, such as assembled workforce and going concern. The goodwill relating to the Company's fiscal year 2016 acquisitions was not deductible for tax purposes and was allocated to the Enterprise Solutions segment. The pro forma effects of the Company's fiscal year 2016 acquisitions on the Company's revenues and results of operations during fiscal year 2016 were considered immaterial.

Transaction costs for the Company's fiscal year 2016 acquisitions, which were primarily included in "General and administrative" in the Company's Consolidated Statement of Operations, were approximately $20 million for fiscal year 2016.

The Consolidated Statement of Operations for fiscal year 2016 included total revenue of approximately $97 million since the date of acquisition through March 31, 2016 for the Company's fiscal year 2016 acquisitions of Rally and Xceedium. The Consolidated Statement of Operations for fiscal year 2016 included net loss of approximately $33 million since the date of acquisition through March 31, 2016 for the Company's fiscal year 2016 acquisitions of Rally and Xceedium. Revenues and results of operations since the date of acquisition for the Company's other fiscal 2016 acquisitions were considered immaterial.

Since Rally and Xceedium were acquired during the second quarter of fiscal year 2016, the Consolidated Statement of Operations for fiscal year 2016 included nine months of activity for revenue and expenses associated with these acquisitions. During the first quarter of fiscal 2017, the Consolidated Statement of Operations included total revenue of $35 million and net loss of $5 million for the Company's fiscal year 2016 acquisitions of Rally and Xceedium.

The Company had approximately $12 million and $3 million of accrued acquisition-related costs at March 31, 2017 and 2016 , respectively, related to purchase price amounts withheld subject to indemnification protections.

Note 3 — Divestitures

In the fourth quarter of fiscal year 2016, the Company sold ERwin for approximately $50 million and recognized a gain on disposal of approximately $4 million , including tax expense of approximately $24 million . The effective tax rate on the disposal was unfavorably affected by non-deductible goodwill of approximately $36 million .

In the fourth quarter of fiscal year 2016, the Company also recognized a loss from a prior period divestiture of approximately $2 million .

In the second quarter of fiscal year 2015, the Company sold arcserve for approximately $170 million and recognized a gain on disposal of approximately $20 million , including tax expense of approximately $77 million . The effective tax rate on the disposal was unfavorably affected by non-deductible goodwill of approximately $109 million .

The divestitures of ERwin and arcserve resulted from an effort to rationalize the Company's product portfolio within the Enterprise Solutions segment.

The income from discontinued operations for fiscal years 2016 and 2015 consisted of the following:

	Year Ended March 31,	
(in millions)	2016	2015
Subscription and maintenance	$ 20	$ 43
Software fees and other	7	19
Total revenue	$ 27	$ 62
Income from operations of discontinued components, net of tax expense of $7 million and $10 million, respectively	$ 12	$ 16
Gain on disposal of discontinued components, net of tax	2	20
Income from discontinued operations, net of tax	$ 14	$ 36

Note 4 — Severance and Exit Costs

Fiscal Year 2015 Severance Actions: During the fourth quarter of fiscal year 2015, the Company committed to and initiated severance actions (Fiscal 2015 Severance Actions) to further improve efficiencies in its operations and align its business with strategic objectives and cost savings initiatives. These actions comprised the termination of approximately 690 employees and resulted in a charge of approximately $40 million during the fourth quarter of fiscal year 2015. The Fiscal 2015 Severance Actions were substantially completed by the first quarter of fiscal year 2016.

Accrued severance and exit costs and changes in the accruals for fiscal years 2017 , 2016 and 2015 were as follows:

(in millions)	Accrued Balance at March 31, 2016	Expense	Change in Estimate	Payments	Accretion and Other	Accrued Balance at March 31, 2017
Severance charges	$ 3	$ —	$ (1)	$ (1)	$ —	$ 1
Facility exit charges	16	—	—	(4)	(1)	11
Total accrued liabilities	$ 19					$ 12

(in millions)	Accrued Balance at March 31, 2015	Expense	Change in Estimate	Payments	Accretion and Other	Accrued Balance at March 31, 2016
Severance charges	$ 28	$ —	$ (3)	$ (22)	$ —	$ 3
Facility exit charges	21	—	—	(5)	—	16
Total accrued liabilities	$ 49					$ 19

(in millions)	Accrued Balance at March 31, 2014	Expense	Change in Estimate	Payments	Accretion and Other	Accrued Balance at March 31, 2015
Severance charges	$ 55	$ 60	$ (7)	$ (77)	$ (3)	$ 28
Facility exit charges	29	—	—	(9)	1	21
Total accrued liabilities	$ 84					$ 49

The severance liabilities are included in “Accrued salaries, wages and commissions” in the Consolidated Balance Sheets. The facility exit liabilities are included in “Accrued expenses and other current liabilities” and “Other noncurrent liabilities” in the Consolidated Balance Sheets.

Accretion and other includes accretion of the Company’s lease obligations related to facility exits as well as changes in the assumptions related to future sublease income. These costs are included in “General and administrative” expense in the Consolidated Statements of Operations.

Note 5 — Trade Accounts Receivable

Trade accounts receivable, net represents amounts due from the Company's customers and is presented net of allowances. These balances include revenue recognized in advance of customer billings but do not include unbilled contractual commitments executed under license agreements. The components of "Trade accounts receivable, net" were as follows:

	At March 31,	
(in millions)	2017	2016
Accounts receivable – billed	$ 706	$ 566
Accounts receivable – unbilled	55	55
Other receivables	14	13
Less: Allowances	(11)	(9)
Trade accounts receivable, net	$ 764	$ 625

Note 6 — Long-Lived Assets

Property and Equipment: A summary of property and equipment was as follows:

	At March 31.	
(in millions)	2017	2016
Land and buildings	$ 172	$ 188
Equipment, software developed for internal use, furniture and leasehold improvements	906	886
Total property and equipment	$ 1,078	$ 1,074
Accumulated depreciation and amortization	(841)	(832)
Property and equipment, net	$ 237	$ 242

Capitalized Software and Other Intangible Assets: The gross carrying amounts and accumulated amortization for capitalized software and other intangible assets at March 31, 2017 were as follows:

	At March 31, 2017				
(in millions)	Gross Amortizable Assets	Less: Fully Amortized Assets	Remaining Amortizable Assets	Accumulated Amortization on Remaining Amortizable Assets	Net Assets
Purchased software products	$ 6,496	$ 4,914	$ 1,582	$ 667	$ 915
Internally developed software products	1,467	1,029	438	391	47
Other intangible assets	1,193	812	381	36	345
Total capitalized software and other intangible assets	$ 9,156	$ 6,755	$ 2,401	$ 1,094	$ 1,307

The gross carrying amounts and accumulated amortization for capitalized software and other intangible assets at March 31, 2016 were as follows:

	At March 31, 2016				
(in millions)	Gross Amortizable Assets	Less: Fully Amortized Assets	Remaining Amortizable Assets	Accumulated Amortization on Remaining Amortizable Assets	Net Assets
Purchased software products	$ 5,990	$ 4,865	$ 1,125	$ 552	$ 573
Internally developed software products	1,467	1,009	458	333	125
Other intangible assets	927	728	199	102	97
Total capitalized software and other intangible assets	$ 8,384	$ 6,602	$ 1,782	$ 987	$ 795

There were no impairments recorded for internally developed software products or purchased software products during fiscal year 2017.

During fiscal year 2016, the Company recorded impairments of approximately $3 million within the Enterprise Solutions segment relating to purchased software products. These impairments were a result of the Company’s continued effort to rationalize its product portfolio. The impairments were included in “Amortization of capitalized software costs” in the Consolidated Statement of Operations for fiscal year 2016. Amortization of capitalized software costs was not included in segment expenses (refer to Note 17, “Segment and Geographic Information,” for additional information). There were no impairments recorded for internally developed software products during fiscal year 2016.

During fiscal year 2015, the Company recorded impairments of approximately $21 million within the Enterprise Solutions segment relating to internally developed software products and purchased software products of approximately $9 million and $12 million , respectively. These impairments were a result of the Company’s continued effort to rationalize its product portfolio. The impairments were included in “Amortization of capitalized software costs” in the Consolidated Statement of Operations for fiscal year 2015.

The Company evaluates the useful lives and recoverability of capitalized software and other intangible assets when events or changes in circumstances indicate that an impairment may exist. These evaluations require complex assumptions about key factors such as future customer demand, technology trends and the impact of those factors on the technology the Company acquires and develops for its products. Impairments or revisions to useful lives could result from the use of alternative assumptions that reflect reasonably possible outcomes related to future customer demand or technology trends for assets within the Enterprise Solutions segment.

Depreciation and Amortization Expense: A summary of depreciation and amortization expense was as follows:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Depreciation	$ 58	$ 62	$ 71
Amortization of purchased software products	164	146	124
Amortization of internally developed software products	79	110	149
Amortization of other intangible assets	19	44	58
Total depreciation and amortization expense	$ 320	$ 362	$ 402

Based on the capitalized software and other intangible assets recognized at March 31, 2017 , the annual amortization expense over the next five fiscal years is expected to be as follows:

	Year Ended March 31,				
(in millions)	2018	2019	2020	2021	2022
Purchased software products	$ 219	$ 178	$ 149	$ 107	$ 99
Internally developed software products	37	9	1	—	—
Other intangible assets	40	39	35	35	35
Total	$ 296	$ 226	$ 185	$ 142	$ 134

Goodwill: The accumulated goodwill impairment losses previously recognized by the Company totaled approximately $111 million at March 31, 2017 and 2016 . These losses were recognized in fiscal years 2003 and 2002. There were no impairments recognized in fiscal years 2017 , 2016 and 2015 .

Goodwill activity by segment for fiscal years 2017 and 2016 was as follows:

(in millions)	Mainframe Solutions	Enterprise Solutions	Services	Total
Balance at March 31, 2015	$ 4,178	$ 1,547	$ 81	$ 5,806
Acquisitions	—	316	—	316
Divestitures	—	(36)	—	(36)
Balance at March 31, 2016	$ 4,178	$ 1,827	$ 81	$ 6,086
Acquisitions	—	771	—	771
Balance at March 31, 2017	$ 4,178	$ 2,598	$ 81	$ 6,857

Note 7 — Deferred Revenue

The current and noncurrent components of "Deferred revenue (billed or collected)" at March 31, 2017 and March 31, 2016 were as follows:

	At March 31,	
(in millions)	2017	2016
Current:		
Subscription and maintenance	$ 1,948	$ 1,990
Professional services	135	116
Software fees and other	139	91
Total deferred revenue (billed or collected) – current	$ 2,222	$ 2,197
Noncurrent:		
Subscription and maintenance	$ 769	$ 712
Professional services	19	21
Software fees and other	6	4
Total deferred revenue (billed or collected) – noncurrent	$ 794	$ 737
Total deferred revenue (billed or collected)	$ 3,016	$ 2,934

Note 8 — Debt

At March 31, 2017 and 2016 , the Company’s debt obligations consisted of the following:

	At March 31,	
(in millions)	2017	2016
Revolving credit facility	$ —	$ —
2.875% Senior Notes due August 2018	250	250
5.375% Senior Notes due December 2019	750	750
3.600% Senior Notes due August 2020	400	400
3.600% Senior Notes due August 2022	500	—
4.500% Senior Notes due August 2023	250	250
4.700% Senior Notes due March 2027	350	—
Term Loan due April 2022	300	300
Other indebtedness, primarily capital leases	8	15
Unamortized debt issuance costs	(14)	(8)
Unamortized discount for Senior Notes	(3)	(4)
Total debt outstanding	$ 2,791	$ 1,953
Less the current portion	(18)	(6)
Total long-term debt portion	$ 2,773	$ 1,947

Interest expense for fiscal years 2017 , 2016 and 2015 was $90 million , $81 million and $77 million , respectively.

The maturities of outstanding debt are as follows:

	Year Ended March 31,					
(in millions)	2018	2019	2020	2021	2022	Thereafter
Amount due	$ 18	$ 267	$ 764	$ 412	$ 30	$ 1,300

Revolving Credit Facility: In April 2015, the Company amended its revolving credit facility to extend the termination date from June 2018 to June 2019. The maximum committed amount available under the revolving credit facility is $1 billion . The facility also provides the Company with an option to increase the available credit by an amount up to $500 million . This option is subject to certain conditions and the agreement of the facility lenders.

In July 2015 and in connection with the acquisition of Rally, the Company borrowed $400 million under its revolving credit facility. The interest rate applicable to the Company at the time of borrowing under the revolving credit facility was approximately 1.19% . In August 2015, the Company repaid the $400 million borrowing under its revolving credit facility with proceeds received from the Company’s issuance of the 3.600% Notes described below. Interest expense in connection with the borrowing under the revolving credit facility was less than $1 million for fiscal year 2016. There was no borrowing activity under the revolving credit facility for fiscal years 2017 and 2015.

At March 31, 2017 and 2016 , there were no outstanding borrowings under the revolving credit facility.

Advances under the revolving credit facility bear interest at a rate dependent on the Company’s credit ratings at the time of those borrowings and are calculated according to a Base Rate or a Eurocurrency Rate, as the case may be, plus an applicable margin. The Company must also pay facility commitment fees quarterly on the full revolving credit commitment at rates dependent on the Company’s credit ratings. Based on the Company’s credit ratings, the rates applicable to the facility at March 31, 2017 and 2016 were as follows:

	At March 31,	
	2017	2016
Applicable margin on Base Rate borrowing	0.125%	0.125%
Weighted average interest rate on outstanding borrowings	—%	—%
Applicable margin on Eurocurrency Rate borrowing	1.000%	1.000%
Facility commitment fee	0.125%	0.125%

The interest rate that would have applied at March 31, 2017 to a borrowing under the amended revolving credit facility would have been 4.13% for Base Rate borrowings and 1.98% for Eurocurrency Rate borrowings.

The revolving credit facility contains customary covenants for borrowings of this type, including two financial covenants: (i) as of any date, for the period of four fiscal quarters ended on or immediately prior to such date, the ratio of consolidated debt for borrowed money to consolidated cash flow, each as defined in the revolving credit facility agreement, must not exceed 4.00 to 1.00; and (ii) as of any date, for the period of four fiscal quarters ended on or immediately prior to such date, the ratio of consolidated cash flow to the sum of interest payable on, and amortization of debt discount in respect of, all consolidated debt for borrowed money, as defined in the credit agreement, must not be less than 3.50 to 1.00. At March 31, 2017, the Company was in compliance with all covenants.

In addition, future borrowings under the revolving credit facility require, at the date of a borrowing, that (i) no event of default shall have occurred and be continuing and (ii) the Company reaffirm the representations and warranties it made in the credit agreement.

Senior Notes: The Company's Senior Notes (Notes) are senior unsecured obligations that rank equally in right of payment with all of the Company's other existing and future senior unsecured and unsubordinated indebtedness. The Notes are senior in right of payment to all of the Company's existing and future senior subordinated or subordinated indebtedness. The Notes are subordinated to any future secured indebtedness to the extent of the assets securing such future indebtedness and structurally subordinated to any indebtedness of the Company's subsidiaries. The Company has the option to redeem the Notes at any time, at redemption prices equal to the greater of (i) the principal amount of the securities to be redeemed or (ii) the sum of the present values of the remaining scheduled payments of principal thereof and interest thereon that would be due on the securities to be redeemed, discounted to the date of redemption on a semi-annual basis at the treasury rate plus the basis points specified for each series of Notes. The Notes contain customary covenants and events of default. The maturity of the Notes may be accelerated by the holders upon certain events of default, including failure to make payments when due and failure to comply with covenants or agreements of the Company set forth in the Notes or the Indenture after notice and failure to cure.

6.125% Senior Notes due December 2014: During the third quarter of fiscal year 2015, the Company repaid its 6.125% Senior Notes due December 2014 in full for $500 million .

2.875% Senior Notes due August 2018: In August 2013, the Company issued $250 million of 2.875% Senior Notes due August 2018 for proceeds of approximately $249 million , reflecting a discount of approximately $1 million . The 2.875% Notes due August 2018 are redeemable by the Company at any time, subject to a "make-whole" premium of 25 basis points. Interest is payable semiannually in February and August. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 2.875% Notes due August 2018 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due.

5.375% Senior Notes due December 2019: In November 2009, the Company issued $750 million of 5.375% Senior Notes due December 2019. The 5.375% Notes due December 2019 are redeemable by the Company at any time, subject to a "make-whole" premium of 30 basis points. Interest is payable semiannually in June and December. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 5.375% Notes due December 2019 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due.

3.600% Senior Notes due August 2020: In August 2015, the Company issued $400 million of 3.600% Senior Notes due August 2020 for proceeds of approximately $400 million , reflecting a discount of less than $1 million . The 3.600% Notes due August 2020 are redeemable by the Company at any time, subject to a "make-whole" premium of 30 basis points. Interest is payable semiannually in February and August. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 3.600% Notes due August 2020 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due. The Company incurred transaction costs of approximately $3 million associated with the 3.600% Notes due August 2020 and is amortizing these costs to "Interest expense, net" in the Company's Consolidated Statements of Operations.

3.600% Senior Notes due August 2022: In March 2017, the Company issued $500 million of 3.600% Senior Notes due August 2022 for proceeds of approximately $500 million , reflecting a discount of less than $1 million . The 3.600% Notes due August 2022 are redeemable by the Company at any time, subject to a "make-whole" premium of 25 basis points. Interest is payable semiannually in February and August. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 3.600% Notes due August 2022 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due. The Company incurred transaction costs of approximately $4 million associated with the 3.600% Notes due August 2022 and is amortizing these costs to "Interest expense, net" in the Company's Consolidated Statements of Operations.

4.500% Senior Notes due August 2023: In August 2013, the Company issued $250 million of 4.500% Senior Notes due August 2023 for proceeds of approximately $249 million , reflecting a discount of approximately $1 million . The 4.500% Notes due August 2023 are redeemable by the Company at any time, subject to a "make-whole" premium of 30 basis points. Interest is payable semiannually in February and August. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 4.500% Notes due August 2023 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due.

4.700% Senior Notes due March 2027: In March 2017, the Company issued $350 million of 4.700% Senior Notes due March 2027 for proceeds of $350 million . The 4.700% Notes due March 2027 are redeemable by the Company at any time, subject to a "make-whole" premium of 35 basis points. Interest is payable semiannually in March and September. In the event of a change of control, each note holder will have the right to require the Company to repurchase all or any part of the holder's 4.700% Notes due March 2027 in cash at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest, if any, to the date of repurchase. This is subject to the right of holders of record on the relevant interest payment date to receive interest due. The Company incurred transaction costs of approximately $3 million associated with the 4.700% Notes due March 2027 and is amortizing these costs to "Interest expense, net" in the Company's Consolidated Statements of Operations.

Term Loan due April 2022: In October 2015, the Company entered into a Term Loan Agreement with Bank of America, N.A. (Term Loan Agreement). The Term Loan Agreement provides for a $300 million term loan (Term Loan) with a maturity date of April 20, 2022 .

From April 1, 2017 through January 1, 2021, the Term Loan Agreement will require quarterly principal amortization payments in an amount equal to 1.25% , and, commencing April 1, 2021 and thereafter, 2.50% , of the stated principal amount of the Term Loan made on the funding date of October 22, 2015. The Company may, at any time on or after October 20, 2016, prepay the outstanding principal amount of the Term Loan in whole or in part without premium or penalty.

The Term Loan will bear interest at a rate dependent on the Company's credit ratings applicable from time to time and, at the Company's option, will be calculated according to a base rate or a Eurodollar rate, as the case may be, plus an applicable margin. Depending on the Company's credit ratings, the applicable margin for any portion of the Term Loan accruing interest based on the base rate ranges from 0.125% to 1.000% and the applicable margin for any portion of the Term Loan accruing interest based on the Eurodollar rate ranges from 1.125% to 2.000% . At the Company's current credit ratings, the applicable margin would be 0.500% for interest at the base rate and 1.500% for interest at the Eurodollar rate.

The Term Loan Agreement provides that the Company may use the proceeds of the Term Loan for general corporate purposes of the Company and its subsidiaries, which may include, but is not limited to, share repurchases, acquisitions and the refinancing of existing indebtedness. The Term Loan Agreement also contains covenants and events of default consistent with the Company's revolving credit facility.

Other Indebtedness: The Company has approximately $114 million of unsecured and uncommitted multi-currency lines of credit available to meet short-term working capital needs for the Company's subsidiaries and uses guarantees and letters of credit issued by financial institutions to guarantee performance on certain contracts and other items. At March 31, 2017 and 2016 , approximately $51 million and $55 million , respectively, of these lines of credit were pledged in support of bank guarantees and other local credit lines. At March 31, 2017 and 2016 , none of these arrangements were drawn down by third parties.

The Company uses a notional pooling arrangement with an international bank to help manage global liquidity. Under this pooling arrangement, the Company and its participating subsidiaries may maintain either cash deposit or borrowing positions through local currency accounts with the bank, so long as the aggregate position of the global pool is a notionally calculated net cash deposit. Because it maintains a security interest in the cash deposits and has the right to offset the cash deposits against the borrowings, the bank provides the Company and its participating subsidiaries favorable interest terms on both. At March 31, 2017 and 2016 , the borrowings outstanding under this notional pooling arrangement, and changes therein, were as follows:

	At March 31,	
(in millions)	2017	2016
Total borrowings outstanding at beginning of year (1)	$ 139	$ 138
Borrowings	2,374	3,899
Repayments	(2,351)	(3,877)
Foreign exchange effect	(25)	(21)
Total borrowings outstanding at end of year (1)	$ 137	$ 139

(1) Included in "Accrued expenses and other current liabilities" in the Company's Consolidated Balance Sheets.

Note 9 — Derivatives

The Company is exposed to financial market risks arising from changes in interest rates and foreign exchange rates. Changes in interest rates could affect the Company's monetary assets and liabilities, and foreign exchange rate changes could affect the Company's foreign currency denominated monetary assets and liabilities and forecasted transactions. The Company enters into derivative contracts with the intent of mitigating a portion of these risks.

Interest Rate Swaps: During the third quarter of fiscal year 2015, the Company repaid its 6.125% Senior Notes due December 2014 in full. The Company had interest rate swap derivatives with a total notional value of $500 million , which swapped a total of $500 million of its 6.125% Senior Notes due December 2014 into floating interest rate debt through December 1, 2014. These swaps were designated as fair value hedges and matured in the third quarter of fiscal year 2015.

At March 31, 2017 and 2016 , the Company had no interest rate swap derivatives outstanding.

Foreign Currency Contracts: The Company enters into foreign currency option and forward contracts to manage balance sheet and forecasted transaction foreign currency risks. The Company has not designated its foreign exchange derivatives as hedges for accounting purposes. The Company's foreign currency derivative trading strategy is to economically hedge a majority of its material exposures due to forecasted and actual intercompany cash flows, such as royalties, development costs and corporate recharges. The Company also economically hedges its material receivable, payable and cash balances held in non-functional currencies. The Company's foreign currency contracts are generally short-term in duration. Principal currencies hedged include the euro, the British pound sterling, the Australian dollar, the Brazilian real, the Japanese yen, the Canadian dollar, the Israeli shekel, the Indian rupee and the Czech koruna. Changes in fair value from these contracts are recorded as "Other expenses, net" in the Company's Consolidated Statements of Operations.

At March 31, 2017 , foreign currency contracts outstanding consisted of purchase and sale contracts with a total gross notional value of approximately $336 million , and durations of less than three months . The net fair value of these contracts at March 31, 2017 was a net asset of approximately $1 million , of which approximately $2 million was included in "Other current assets" and approximately $1 million was included in "Accrued expenses and other current liabilities" in the Company's Consolidated Balance Sheet.

At March 31, 2016 , foreign currency contracts outstanding consisted of purchase and sale contracts with a total gross notional value of approximately $332 million and durations of less than three months . The net fair value of these contracts at March 31, 2016 was a net liability of approximately $1 million , of which approximately $2 million was included in "Other current assets" and approximately $3 million was included in "Accrued expenses and other current liabilities" in the Company's Consolidated Balance Sheet.

A summary of the effect of the interest rate and foreign exchange derivatives on the Company's Consolidated Statements of Operations was as follows:

	Amount of Net (Gain)/Loss Recognized in the Consolidated Statements of Operations		
Location of Amounts Recognized	Year Ended March 31,		
(in millions)	2017	2016	2015
Interest expense, net – interest rate swaps designated as fair value hedges	$ —	$ —	$ (8)
Other expenses, net – foreign currency contracts	$ 4	$ 6	$ (31)

The Company is subject to collateral security arrangements with most of its major counterparties. These arrangements require the Company or the counterparty to post collateral when the derivative fair values exceed contractually established thresholds. The aggregate fair values of all derivative instruments under these collateralized arrangements were either in a net asset position or under the established threshold at March 31, 2017 and 2016 . The Company posted no collateral at March 31, 2017 or 2016 . Under these agreements, if the Company's credit ratings had been downgraded one rating level, the Company would still not have been required to post collateral.

Note 10 — Fair Value Measurements

The following table presents the Company's assets and liabilities that were measured at fair value on a recurring basis at March 31, 2017 and 2016 :

	At March 31, 2017			At March 31, 2016		
	Fair Value Measurement Using Input Types		Estimated Fair Value	Fair Value Measurement Using Input Types		Estimated Fair Value
(in millions)	Level 1	Level 2	Total	Level 1	Level 2	Total
Assets:						
Money market funds [1]	$ 1,077	$ —	$ 1,077	$ 820	$ —	$ 820
Foreign exchange derivatives [2]	—	2	2	—	2	2
Total assets	$ 1,077	$ 2	$ 1,079	$ 820	$ 2	$ 822
Liabilities:						
Foreign exchange derivatives [2]	$ —	$ 1	$ 1	$ —	$ 3	$ 3
Total liabilities	$ —	$ 1	$ 1	$ —	$ 3	$ 3

(1) The Company's investments in money market funds are classified as "Cash and cash equivalents" in its Consolidated Balance Sheets.

(2) Refer to Note 9, "Derivatives" for additional information.

At March 31, 2017 and 2016 , the Company did not have any assets or liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

The carrying values of financial instruments classified as current assets and current liabilities, such as cash and cash equivalents, short-term investments, accounts payable, accrued expenses, and short-term borrowings, approximate fair value due to the short-term maturity of the instruments.

The following table presents the carrying amounts and estimated fair values of the Company's other financial instruments that were not measured at fair value on a recurring basis at March 31, 2017 and 2016 :

	At March 31, 2017		At March 31, 2016	
(in millions)	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Liabilities:				
Total debt [1]	$ 2,791	$ 2,903	$ 1,953	$ 2,058
Facility exit reserve [2]	$ 11	$ 12	$ 16	$ 17

(1) Estimated fair value of total debt is based on quoted prices for similar liabilities for which significant inputs are observable except for certain long-term lease obligations, for which fair value approximates carrying value (Level 2).

(2) Estimated fair value for the facility exit reserve is determined using the Company's incremental borrowing rate at March 31, 2017 and 2016 . At March 31, 2017 and 2016 , the facility exit reserve included approximately $3 million and $4 million , respectively, in "Accrued expenses and other current liabilities" and approximately $8 million and $12 million , respectively, in "Other noncurrent liabilities" in the Company's Consolidated Balance Sheets (Level 3).

Note 11 — Commitments and Contingencies

The Company leases real estate and equipment with lease terms expiring through fiscal year 2027. Certain leases provide for renewal options and additional rentals based on escalations in operating expenses and real estate taxes.

Rental expense, including short-term leases, maintenance charges and taxes on leased facilities, was approximately $138 million , $142 million and $144 million for fiscal years 2017 , 2016 and 2015 , respectively. Rental expense does not include rent expense associated with facilities exited as part of previous restructuring plans and actions.

Future minimum lease payments under non-cancelable operating leases, including facilities exited as part of previous restructuring plans and actions, at March 31, 2017 were as follows:

Fiscal Year		*(in millions)*
2018	$	93
2019		82
2020		74
2021		63
2022		42
Thereafter		83
Total	$	437
Less income from subleases		(34)
Net minimum operating lease payments	$	403

The Company has additional commitments to purchase goods and services of approximately $217 million in future periods, approximately $198 million of which expires by fiscal year 2022.

In November 2015, the Company entered into and closed on an arrangement with Careal Holding AG (Careal) to repurchase common stock in a private transaction and agreed that it will indemnify Careal for certain potential tax matters resulting solely from the Company's breach of the covenant relating to the post-closing holding of the repurchased shares under this arrangement. Refer to Note 12, "Stockholders' Equity" for additional information.

Litigation: The Company, various subsidiaries, and certain current and former officers have been or, from time to time, may be named as defendants in various lawsuits and claims arising in the normal course of business. The Company may also become involved with contract issues and disputes with customers, including government customers.

On March 24, 2014, the U.S. Department of Justice (DOJ) filed under seal in the United States District Court for the District of Columbia a complaint against the Company in partial intervention under the qui tam provisions of the civil False Claims Act (FCA). The underlying complaint was filed under seal by an individual plaintiff on August 24, 2009. On May 29, 2014, the case was unsealed. Both the DOJ and the individual plaintiff filed amended complaints. The complaints related to government sales transactions under the Company's General Services Administration (GSA) schedule contract, entered into in 2002 and extended through subsequent amendments. In sum and substance, the complaints alleged that the Company provided inaccurate commercial discounting information to the GSA during contract negotiations and that, as a result, the GSA's contract discount was lower than it otherwise would have been. In addition, the complaints alleged that the Company failed to apply the full negotiated discount in some instances and to pay sufficient rebates pursuant to the contract's price reduction clause. In addition to FCA claims, the complaints also asserted common law causes of action. The DOJ complaint sought an unspecified amount of damages, including treble damages and civil penalties. The complaint by the individual plaintiff alleged that the U.S. government suffered damages in excess of $100 million and sought an unspecified amount of damages, including treble damages and civil penalties. On October 30, 2014, the GSA Suspension and Debarment Division issued a Show Cause Letter to the Company in response to the complaints summarized above. In sum, the letter called on the Company to demonstrate why the U.S. government should continue to contract with the Company, given the litigation allegations made in the complaints. On December 19, 2014, the Company provided a detailed response to the Show Cause Letter. In July 2015, after the Company agreed to assume certain additional reporting requirements during the pendency of the litigation, the GSA Suspension and Debarment Division advised the Company that it had concluded its review and determined that the Company is a responsible contractor with which government agencies could continue to contract. On October 24, 2016, the DOJ, the Company and the individual plaintiff filed a joint motion advising the court that they had reached an agreement-in-principle to resolve the litigation and requesting an extension of the court schedule to permit the parties to draft and execute formal settlement agreements. Also on October 24, 2016, the court granted that joint motion. The agreement-in-principle reached by the parties called for settlement of the litigation for a payment of approximately $45 million , exclusive of the individual plaintiff's claims for attorneys' fees and litigation expenses, without admitting any wrongdoing and, as a result, the Company increased its reserve for this case during the second quarter of fiscal year 2017. On March 10, 2017, the parties executed a formal agreement settling the case upon payment of approximately $45 million to the U.S. Government. Also on March 10, 2017, the Company and the individual plaintiff executed a formal agreement settling the individual plaintiff's claims for attorneys' fees and litigation expenses upon payment of approximately $4 million . Both settlement amounts were paid in the fourth quarter of fiscal year 2017. Pursuant to the agreements and the payments, the parties filed a joint Stipulated Dismissal on March 16, 2017 and the court dismissed the case in its entirety on March 17, 2017.

With respect to litigation in general, based on the Company's experience, management believes that the damages amounts claimed in a case are not a meaningful indicator of the potential liability. Claims, suits, investigations and proceedings are inherently uncertain and it is not possible to predict the ultimate outcome of cases. The Company believes that it has meritorious defenses in connection with its current lawsuits and material claims and disputes, and intends to vigorously contest each of them.

In the opinion of the Company's management based upon information currently available to the Company, while the outcome of its lawsuits, claims and disputes is uncertain, the likely results of these lawsuits, claims and disputes are not expected, either individually or in the aggregate, to have a material adverse effect on the Company's financial position, results of operations or cash flows, although the effect could be material to the Company's results of operations or cash flows for any interim reporting period. For some matters, the Company is unable to estimate a range of reasonably possible loss due to the stage of the matter and/or other particular circumstances of the matter. For others, a range of reasonably possible loss can be estimated. For those matters for which such a range can be estimated, the Company estimates that, in the aggregate, the range of reasonably possible loss does not exceed $20 million . This is in addition to amounts, if any, that have been accrued for those matters.

The Company is obligated to indemnify its officers and directors under certain circumstances to the fullest extent permitted by Delaware law. As a part of that obligation, the Company may, from time to time, advance certain attorneys' fees and expenses incurred by officers and directors in various lawsuits and investigations, as permitted under Delaware law.

Note 12 — Stockholders' Equity

Stock Repurchases: On November 13, 2015, the Board of Directors (Board) approved a stock repurchase program that authorized the Company to acquire up to $750 million of its common stock. During fiscal year 2017, the Company repurchased approximately 3.1 million shares of its common stock for approximately $100 million . At March 31, 2017 , the Company remained authorized to purchase approximately $650 million of its common stock under its current stock repurchase program.

In November 2015, the Company entered into and closed on an arrangement with Careal to repurchase 22 million shares of its common stock in a private transaction. The transaction was valued with an effective share repurchase price of $26.81 per share, which represented a 3% discount to the 10-trading day volume weighted average price of the Company's common stock using a reference date of November 5, 2015. The Company's payment to Careal upon closing was reduced by $0.25 per share to account for the Company's dividend that was paid on December 8, 2015 to stockholders of record on November 19, 2015. As a result of the share repurchase and dividend payment, in total the Company paid Careal approximately $590 million during the third quarter of fiscal year 2016 in connection with the 22 million shares repurchased. The transaction was funded with U.S. cash on hand and effectively concluded CA's prior $1 billion stock repurchase program approved by the Board on May 14, 2014.

Including the November 2015 share repurchase arrangement with Careal, the Company repurchased approximately 26 million shares of its common stock for approximately $707 million during fiscal year 2016.

Prior to entering into and closing on the share repurchase arrangement, Careal held approximately 28.7% of the Company's total outstanding stock. In connection with the share repurchase arrangement, Careal transferred an additional 37 million shares of the Company's common stock to an entity wholly owned by Martin Haefner, a 50% owner of Careal. Upon completion of the share repurchase arrangement and the share transfer described above, Careal's and Martin Haefner's ownership interests were approximately 16.0% and 8.9% , respectively, of the Company's total outstanding common stock. Thus, Careal and its shareholders collectively owned, directly and indirectly, approximately 24.9% of the Company's total outstanding common stock.

In connection with the share repurchase arrangement with Careal, the Company agreed that it will indemnify Careal for certain potential tax matters resulting solely from the Company's breach of the covenant relating to the post-closing holding of the repurchased shares under this arrangement. The Company believes that the occurrence of an event that could trigger the indemnification is within its control and is remote. Therefore, the Company has not recorded a liability related to such indemnification. The maximum potential future payment under this indemnification, excluding interest and penalties, if any, is estimated to be approximately CHF 101 million (which translated to approximately $101 million at March 31, 2017). Any changes to the Company's assessment of the probability of the occurrence of an event that could trigger the indemnification provision may result in the Company recording a liability in the future, which would impact the results of operations for that period.

During fiscal year 2015, the Company repurchased approximately 7.2 million shares of its common stock for approximately $215 million .

Accumulated Other Comprehensive Loss: Foreign currency translation losses included in "Accumulated other comprehensive loss" in the Company's Consolidated Balance Sheets at March 31, 2017 , 2016 and 2015 were approximately $483 million , $416 million and $418 million , respectively.

Cash Dividends: The Board declared the following dividends during fiscal years 2017 and 2016 :

Year Ended March 31, 2017 :

(in millions, except per share amounts)

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
May 4, 2016	$0.255	May 26, 2016	$107	June 14, 2016
August 3, 2016	$0.255	August 25, 2016	$107	September 13, 2016
November 2, 2016	$0.255	November 17, 2016	$107	December 6, 2016
February 1, 2017	$0.255	February 16, 2017	$107	March 14, 2017

Year Ended March 31, 2016 :

(in millions, except per share amounts)

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
May 5, 2015	$0.25	May 28, 2015	$110	June 16, 2015
August 6, 2015	$0.25	August 27, 2015	$110	September 15, 2015
November 5, 2015	$0.25	November 19, 2015	$105	December 8, 2015
February 3, 2016	$0.25	February 18, 2016	$104	March 15, 2016

Rights Plan: Under the Stockholder Protection Rights Agreement dated November 30, 2015 (Rights Agreement), each outstanding share of the Company's common stock carries a right (Right). The Rights will trade with the common stock until the Separation Time, which is the next business day following the earlier of (i) the tenth business day (or such later day designated by resolution of the Board) after any person commences a tender or exchange offer that would result in such person (together with its affiliates and associates) becoming the beneficial owner of 20% or more of the Company’s common stock (other than Martin Haefner and Eva Maria Bucher-Haefner and their respective affiliates and associates, who are “grandfathered” under this provision so long as their aggregate ownership of common stock does not exceed 25% of the shares of the Company’s outstanding common stock) (Acquiring Person); or (ii) the date of a “Flip-in” Trigger. A “Flip-in” Trigger will occur upon the earlier of (i) a public announcement by the Company that any person has become an Acquiring Person or (ii) an Acquiring Person acquires more than 50% of the Company’s outstanding shares of common stock. On or after the Separation Time, each Right would initially entitle the holder to purchase, for $120 , one one-thousandth (0.001) of a share of the Company’s participating preferred stock. The participating preferred stock would be designed so that each one one-thousandth of a share of participating preferred stock has economic and voting terms similar to those of one share of common stock. If a “Flip-in” Trigger occurs, the Rights owned by the Acquiring Person, its affiliates and associates, or transferees thereof would automatically become void and each other Right will automatically become a right to buy, for the exercise price of $120 , that number of shares of the Company’s common stock (or, at the Company’s option, participating preferred stock) having a market value of twice the exercise price. The Rights may also be redeemed by the Board, at any time until a “Flip-in” Trigger has occurred, at a redemption price of $0.001 per Right. In addition, in connection with a Qualified Offer, holders of 10% of the Company’s common stock (excluding shares held by the offeror and its affiliates and associates), upon providing proper written notice, may direct the Board to call a special meeting of shareholders for the purposes of voting on a resolution authorizing the redemption of the Rights pursuant to the provisions of the Rights Agreement. Such meeting must be held on or prior to the 90 th business day following the Company’s receipt of such written notice. A Qualified Offer means an offer that, among other things, is a fully financed all-cash tender offer or an exchange offer offering common shares of the offeror or a combination thereof; is an offer with respect to which the Board has not received an inadequacy opinion from its financial advisors; is an offer that is subject only to the minimum tender condition and other usual and customary terms and conditions; is an offer that includes a commitment of the offeror that the offer will remain open for a certain prescribed period of time; is an offer that contains a minimum tender condition of at least 50% ; and is an offer pursuant to which the offeror has committed to consummate a prompt second step transaction. The Rights will expire on November 30, 2018 , unless earlier redeemed by the Board.

Note 13 — Income from Continuing Operations Per Common Share

The following table presents basic and diluted income from continuing operations per common share information for fiscal years 2017 , 2016 and 2015 , respectively:

	Year Ended March 31,		
(in millions, except per share amounts)	2017	2016	2015
Basic income from continuing operations per common share:			
Income from continuing operations	$ 775	$ 769	$ 810
Less: Income from continuing operations allocable to participating securities	(9)	(8)	(8)
Income from continuing operations allocable to common shares	$ 766	$ 761	$ 802
Weighted average common shares outstanding	414	426	439
Basic income from continuing operations per common share	$ 1.85	$ 1.79	$ 1.83
Diluted income from continuing operations per common share:			
Income from continuing operations	$ 775	$ 769	$ 810
Less: Income from continuing operations allocable to participating securities	(9)	(8)	(8)
Income from continuing operations allocable to common shares	$ 766	$ 761	$ 802
Weighted average shares outstanding and common share equivalents:			
Weighted average common shares outstanding	414	426	439
Weighted average effect of share-based payment awards	1	1	2
Denominator in calculation of diluted income per share	415	427	441
Diluted income from continuing operations per common share	$ 1.85	$ 1.78	$ 1.82

For fiscal years 2017 , 2016 and 2015 , respectively, approximately 1 million , 2 million and 1 million shares of Company common stock underlying restricted stock awards and options to purchase common stock were excluded from the calculation because their effect on income per share was anti-dilutive during the respective periods. Weighted average restricted stock awards of approximately 5 million , 4 million and 4 million for fiscal years 2017 , 2016 and 2015 , respectively, were considered participating securities in the calculation of net income allocable to common stockholders.

Note 14 — Stock Plans

Share-based incentive awards are provided to employees under the terms of the Company's equity incentive compensation plans (the Plans). The Plans are administered by the Compensation Committee. Awards under the Plans may include stock options, restricted stock awards (RSAs), restricted stock units (RSUs), performance share units (PSUs), stock appreciation rights or any combination thereof. The non-employee members of the Board receive deferred stock units under a separate director compensation plan. The Company typically settles awards under employee and non-employee director compensation plans with stock held in treasury.

All Plans, with the exception of acquired companies' stock plans, have been approved by the Company's shareholders. The Company grants all new annual performance cash incentive bonuses, long-term performance bonuses, non-statutory stock options, RSAs, RSUs and other equity-based awards under the 2011 Incentive Plan, which replaced the 2007 Incentive Plan. Outstanding awards under the 2007 Incentive Plan and 2002 Incentive Plan, as amended, are satisfied under their respective Plans. Approximately 45 million shares of common stock were originally available to be granted to select employees and consultants under the 2011 Incentive Plan. Under the 2011 Incentive Plan, no more than 10 million incentive stock options may be granted. The 2011 Incentive Plan will continue until the earlier of (i) termination by the Board or (ii) the tenth anniversary of the date of the Company's 2011 Annual Meeting of Stockholders. Awards to the non-employee directors are granted under the 2012 Compensation Plan for Non-Employee Directors, which replaced the 2003 Compensation Plan for Non-Employee Directors, as amended.

Share-Based Compensation: The Company recognized share-based compensation in the following line items in the Consolidated Statements of Operations for the periods indicated:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Costs of licensing and maintenance	$ 7	$ 7	$ 5
Cost of professional services	3	4	4
Selling and marketing	37	34	30
General and administrative	38	35	29
Product development and enhancements	23	17	19
Share-based compensation expense before tax	$ 108	$ 97	$ 87
Income tax benefit	(35)	(31)	(28)
Net share-based compensation expense	$ 73	$ 66	$ 59

The tax benefit from share-based incentive awards provided to employees that was recorded for book purposes exceeded that which was deductible for tax purposes by approximately $1 million , $1 million and $1 million for fiscal years 2017 , 2016 and 2015 , respectively. The tax effect of this temporary difference in tax expense was charged to "Additional paid-in capital" in the Consolidated Balance Sheets and did not affect the Company's Consolidated Statements of Operations.

The following table summarizes information about unrecognized share-based compensation costs at March 31, 2017 :

	Unrecognized Share-Based Compensation Costs *(in millions)*	Weighted Average Period Expected to be Recognized *(in years)*
Stock option awards	$ 4	1.8
Restricted stock units	17	1.8
Restricted stock awards	62	1.8
Performance share units	30	2.3
Total unrecognized share-based compensation costs	$ 113	1.9

There were no capitalized share-based compensation costs at March 31, 2017 , 2016 or 2015 .

Stock Option Awards: Stock options are awards issued to employees that entitle the holder to purchase shares of the Company's stock at a fixed price. Stock option awards are generally granted at an exercise price equal to the Company's fair market value on the date of grant and with a contractual term of 10 years , unless the Compensation Committee establishes a shorter expiration period or the stock options are forfeited. Stock option awards generally vest one-third per year and become fully vested three years from the grant date.

At March 31, 2017 , options outstanding that have vested and are expected to vest were as follows:

	Number of Shares *(in millions)*	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life *(in years)*	Aggregate Intrinsic Value [1] *(in millions)*
Vested	2.1	$ 27.09	6.5	$ 9.9
Expected to vest [2]	1.5	31.09	8.7	1.2
Total	3.6	$ 28.75	7.4	$ 11.1

(1) These amounts represent the difference between the exercise price and $31.72 , the closing price of the Company's common stock on March 31, 2017 , the last trading day of the Company's fiscal year as reported on the NASDAQ Stock Market for all in-the-money options.

(2) Outstanding options expected to vest are net of estimated future forfeitures.

Additional information with respect to stock option activity was as follows:

	Number of Shares *(in millions)*		Weighted Average Exercise Price
Outstanding at March 31, 2014	3.7	$	26.13
Granted	0.9		29.13
Exercised	(0.9)		25.46
Expired or terminated	(0.5)		26.81
Outstanding at March 31, 2015	3.2	$	27.02
Granted	0.8		30.39
Exercised	(0.2)		25.58
Expired or terminated	(0.1)		31.08
Outstanding at March 31, 2016	3.7	$	27.72
Granted	1.1		31.84
Exercised	(0.8)		27.09
Expired or terminated	(0.2)		30.82
Outstanding at March 31, 2017	3.8	$	28.88

	Number of Shares *(in millions)*		Weighted Average Exercise Price
Options exercisable at:			
March 31, 2015	1.2	$	25.92
March 31, 2016	2.0	$	26.16
March 31, 2017	2.1	$	27.09

The following table summarizes stock option information at March 31, 2017 :

	Options Outstanding						Options Exercisable					
Range of Exercise Prices	Shares *(in millions)*		Aggregate Intrinsic Value *(in millions)*	Weighted Average Remaining Contractual Life *(in years)*		Weighted Average Exercise Price	Shares *(in millions)*		Aggregate Intrinsic Value *(in millions)*	Weighted Average Remaining Contractual Life *(in years)*		Weighted Average Exercise Price
$22.82 — $25.00	0.7	$	5.6	5.8	$	23.50	0.7	$	5.6	5.8	$	23.50
$25.01 — $30.00	0.9		3.8	6.6		27.76	0.8		3.4	6.5		27.53
$30.01 — over	2.2		1.8	8.3		31.07	0.6		0.9	7.3		30.34
	3.8	$	11.2	7.5	$	28.88	2.1	$	9.9	6.5	$	27.09

The fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model. The Company believes that the valuation technique and the approach utilized to develop the underlying assumptions are appropriate in calculating the fair value of the Company’s stock options. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by employees who receive equity awards.

The weighted average estimated values of employee stock option grants, as well as the weighted average assumptions that were used in calculating such values during fiscal years 2017 , 2016 and 2015 were based on estimates at the date of grant as follows:

	Year Ended March 31,		
	2017	2016	2015
Weighted average fair value	$ 4.42	$ 4.68	$ 5.61
Dividend yield	3.56%	3.37%	3.32%
Expected volatility factor (1)	22%	23%	27%
Risk-free interest rate (2)	1.5%	1.9%	2.0%
Expected life (in years) (3)	6.0	6.0	6.0

(1) Expected volatility is measured using historical daily price changes of the Company's stock over the respective expected term of the options and the implied volatility derived from the market prices of the Company's traded options.

(2) The risk-free rate for periods within the contractual term of the stock options is based on the U.S. Treasury yield curve in effect at the time of grant.

(3) The expected life is the number of years the Company estimates that options will be outstanding prior to exercise. The Company's computation of expected life was determined based on the simplified method (the average of the vesting period and option term).

The following table summarizes information on options exercised for the periods indicated:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Cash received from options exercised	$ 22	$ 4	$ 22
Intrinsic value of options exercised	$ 5	$ 1	$ 3

Restricted Stock Awards and Restricted Stock Unit Awards: Restricted Stock Awards (RSAs) are shares of common stock awarded to employees, subject to restrictions on transfer and subject to forfeiture until the awards vest, typically over a three-year period. RSAs entitle holders to vote and receive dividends on the shares awarded. The fair value of the awards is determined and fixed based on the closing market value of the Company's stock on the grant date.

Restricted Stock Units (RSUs) are awards issued to employees that entitle the holder to receive shares of common stock as the awards vest, typically over a three-year period. RSUs do not entitle holders to vote or receive dividends on the shares underlying the RSUs. The fair value of the awards is determined and fixed based on the market value of the Company's stock on the grant date reduced by the present value of dividends expected to be paid on the Company's stock prior to vesting of the RSUs, which is calculated using a risk-free interest rate.

The following table summarizes the activity of RSAs and RSUs under the Plans:

	RSAs		RSUs	
	Shares *(in millions)*	Weighted Average Grant Date Fair Value	Shares *(in millions)*	Weighted Average Grant Date Fair Value
Outstanding at March 31, 2014	4.3	$ 26.38	1.4	$ 24.47
Granted	3.1	28.97	0.8	26.99
Released	(2.2)	26.36	(0.6)	24.64
Forfeitures	(0.9)	27.79	(0.2)	25.59
Outstanding at March 31, 2015	4.3	$ 27.99	1.4	$ 25.74
Granted	2.8	30.59	0.9	28.72
Released	(2.1)	27.95	(0.8)	26.17
Forfeitures	(0.8)	29.44	(0.2)	26.88
Outstanding at March 31, 2016	4.2	$ 29.51	1.3	$ 27.35
Granted	2.9	31.56	1.0	30.17
Released	(2.1)	29.27	(0.9)	28.51
Forfeitures	(0.5)	30.66	(0.1)	28.71
Outstanding at March 31, 2017	4.5	$ 30.83	1.3	$ 28.67

The total fair value on the vesting date of RSAs and RSUs released during fiscal years 2017 , 2016 and 2015 was approximately $88 million , $78 million and $75 million , respectively.

Performance Awards: The Company rewards certain senior executives with performance awards under its long-term incentive plans. Performance Share Units (PSUs) are awards of the right to receive grants of unrestricted shares of Common Stock, RSAs or RSUs if and when the performance conditions are met and after approval by the Compensation Committee. These PSUs include 1-year and 3-year performance periods for senior executives and a 1-year performance period for members of the sales team.

The table below summarizes the RSAs and RSUs granted under the 1-year PSUs for the Company's fiscal year 2016 , 2015 and 2014 incentive plan years. The RSAs and RSUs were granted in the first quarter of fiscal years 2017 , 2016 and 2015 , respectively. The RSAs and RSUs vest 34% on the date of grant and 33% on the first and second anniversaries of the date of grant.

		RSAs			RSUs		
Incentive Plans for Fiscal Years	Performance Period	Shares *(in millions)*	Weighted Average Grant Date Fair Value		Shares *(in millions)*	Weighted Average Grant Date Fair Value	
2016	1 year	0.6	$	31.53	0.1	$	30.53
2015	1 year	0.5	$	31.41	0.1	$	30.42
2014	1 year	0.7	$	29.91	0.1	$	28.92

The table below summarizes the shares of common stock issued under the 3-year PSUs for the Company's fiscal year 2014 and 2013 incentive plan years in the first quarter of fiscal years 2017 and 2016.

Incentive Plans for Fiscal Years	Performance Period	Shares of Common Stock *(in millions)*	Weighted Average Grant Date Fair Value	
2014	3 years	0.3	$	31.53
2013	3 years	0.1	$	31.41

The table below summarizes the RSAs and RSUs granted under the 1-year PSUs for the Company's fiscal year 2016 , 2015 and 2014 sales retention equity programs. The RSAs and RSUs were granted in the first quarter of fiscal years 2017 , 2016 and 2015 , respectively. The RSAs and RSUs vest on the third anniversary of the grant date.

		RSAs			RSUs		
Incentive Plans for Fiscal Years	Performance Period	Shares *(in millions)*	Weighted Average Grant Date Fair Value		Shares *(in millions)*	Weighted Average Grant Date Fair Value	
2016	1 year	0.3	$	31.53	0.1	$	28.52
2015	1 year	0.2	$	30.45	0.1	$	27.50
2014	1 year	0.2	$	28.69	0.1	$	25.73

Employee Stock Purchase Plan: The Company maintains the 2012 Employee Stock Purchase Plan (ESPP) for all eligible employees. The ESPP offer period is semi-annual and allows participants to purchase the Company’s common stock at 95% of the closing price of the stock on the last day of each offer period, on June 30 and December 31, respectively. The ESPP is non-compensatory. During each of the fiscal years ended March 31, 2017 , 2016 and 2015 , the Company issued approximately 0.2 million shares under the ESPP at an average price of $30.65 , $27.47 and $28.06 per share, respectively. As of March 31, 2017 , approximately 29.0 million shares were available for future issuances under the ESPP.

Note 15 – Income Taxes

The amounts of income from continuing operations before income taxes attributable to domestic and foreign operations were as follows:

	Year Ended March 31,					
(in millions)	2017		2016		2015	
Domestic	$	787	$	729	$	737
Foreign		286		355		378
Income from continuing operations before income taxes	$	1,073	$	1,084	$	1,115

Income tax expense (benefit) from continuing operations consisted of the following:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Current:			
Federal	$ 215	$ 285	$ 284
State	30	50	37
Foreign	74	95	56
Total current	$ 319	$ 430	$ 377
Deferred:			
Federal	$ 2	$ (86)	$ (74)
State	(5)	(20)	(12)
Foreign	(18)	(9)	14
Total deferred	$ (21)	$ (115)	$ (72)
Total:			
Federal	$ 217	$ 199	$ 210
State	25	30	25
Foreign	56	86	70
Total income tax expense from continuing operations	$ 298	$ 315	$ 305

The income tax expense from continuing operations was reconciled to the tax expense computed at the U.S. federal statutory tax rate as follows:

	Year Ended March 31,		
(in millions)	2017	2016	2015
Tax expense at U.S. federal statutory tax rate	$ 376	$ 379	$ 390
Effect of international operations	(70)	(77)	(91)
U.S. federal and state tax contingencies	—	8	1
Domestic manufacturing deduction	(23)	(27)	(23)
State taxes, net of U.S. federal tax benefit	16	16	15
Valuation allowance	(16)	3	8
Other, net	15	13	5
Income tax expense from continuing operations	$ 298	$ 315	$ 305

Deferred income taxes reflect the effect of temporary differences between the carrying amounts of assets and liabilities recognized for financial reporting purposes and the amounts recognized for tax purposes. The tax effects of the temporary differences from continuing operations were as follows:

	At March 31,	
(in millions)	2017	2016
Deferred tax assets:		
Modified accrual basis accounting for revenue	$ 364	$ 391
Share-based compensation	41	36
Accrued expenses	11	42
Net operating losses	149	135
Deductible state tax and interest benefits	19	17
Other	62	75
Total deferred tax assets	$ 646	$ 696
Valuation allowances	(89)	(96)
Total deferred tax assets, net of valuation allowance	$ 557	$ 600
Deferred tax liabilities:		
Purchased software	$ 207	$ 100
Depreciation	3	4
Other intangible assets	116	39
Internally developed software	23	53
Total deferred tax liabilities	$ 349	$ 196
Net deferred tax asset	$ 208	$ 404

In management’s judgment, it is more likely than not that the total deferred tax assets, net of valuation allowance, of approximately $557 million will be realized in the foreseeable future. Realization of the net deferred tax assets is dependent on the Company’s generation of sufficient future taxable income in the related tax jurisdictions to obtain benefit from the reversal of temporary differences, net operating loss carryforwards, and tax credit carryforwards. The amount of deferred tax assets considered realizable is subject to adjustments in future periods if estimates of future taxable income change.

U.S. federal, state and foreign net operating loss carryforwards (NOLs) totaled approximately $702 million and $671 million at March 31, 2017 and 2016 , respectively. The NOLs will expire as follows: $477 million between 2018 and 2037 and $225 million may be carried forward indefinitely.

A valuation allowance has been provided for deferred tax assets that are not expected to be realized. The valuation allowance decreased approximately $7 million at March 31, 2017 and increased approximately $11 million at March 31, 2016 . The decrease in the valuation allowance at March 31, 2017 primarily related to the release of valuation allowances in certain foreign jurisdictions due to the change in management's judgment of estimated future taxable income, partially offset by an increase in valuation allowance related to acquired NOL's. The increase in the valuation allowance at March 31, 2016 primarily related to acquired NOL's which are subject to annual limitations under IRS code Section 382, and NOL's and other deferred tax assets in foreign jurisdictions that in management's judgment will not be realized, offset by currency translation adjustments.

No provision has been made for U.S. federal income taxes on approximately $3,202 million and $2,987 million at March 31, 2017 and 2016 , respectively, of unremitted earnings of the Company’s foreign subsidiaries since the Company plans to permanently reinvest all such earnings outside the United States. It is not practicable to determine the amount of tax associated with such unremitted earnings.

At March 31, 2017 , the gross liability for income taxes associated with uncertain tax positions, including interest and penalties, was approximately $161 million (of which approximately $16 million was classified as current). In addition, at March 31, 2017 , the Company recorded approximately $19 million of deferred tax assets for future deductions of interest and state income taxes related to these uncertain tax positions. At March 31, 2016 , the gross liability for income taxes associated with uncertain tax positions, including interest and penalties, was approximately $163 million (of which approximately $1 million was classified as current). In addition, at March 31, 2016 , the Company recorded approximately $17 million of deferred tax assets for future deductions of interest and state income taxes related to these uncertain tax positions.

A roll-forward of the Company's uncertain tax positions for all U.S. federal, state and foreign tax jurisdictions was as follows:

	At March 31,	
(in millions)	2017	2016
Balance at beginning of year	$ 143	$ 134
Additions for tax positions related to the current year	13	22
Additions for tax positions from prior years	4	20
Reductions for tax positions from prior years	(9)	(14)
Settlement payments	(3)	(16)
Statute of limitations expiration	(13)	(5)
Translation and other	(3)	2
Balance at end of year	$ 132	$ 143

The amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate was $116 million and $119 million at March 31, 2017 and 2016 , respectively. The gross amount of interest and penalties accrued, reported in "Total liabilities," was approximately $29 million and $20 million for fiscal years 2017 and 2016 , respectively. The amount of interest and penalties increased approximately $9 million for fiscal year 2017 and decreased approximately $8 million for fiscal year 2016 .

A number of years may elapse before a particular uncertain tax position for which the Company has not recorded a financial statement benefit is audited and finally resolved. The number of years with open tax audits varies depending on the tax jurisdiction. The Company is subject to tax audits in the following major taxing jurisdictions:

- United States — federal tax years are open for years 2014 and forward;
- Brazil — tax years are open for years 2008 and forward; and
- Canada — tax years are open for years 2008 and forward.

In November 2013, the Company received a tax assessment from the Brazilian tax authority relating to fiscal years 2008-2013. The assessment included a report of findings in connection with the examination. The Company disagrees with the proposed adjustments in the assessment and intends to vigorously dispute these matters through applicable administrative and judicial procedures, as appropriate. As the result of decisions at the Administrative Court of Appeals, the total potential liability from the tax assessment at March 31, 2017 was approximately 180 million Brazilian reais (which translated to approximately $58 million at March 31, 2017), including interest and penalties accumulated through March 31, 2017. While the Company believes that it will ultimately prevail, if the assessment is not resolved in favor of the Company, it would have an impact on the Company's consolidated financial position, cash flows and results of operations.

The Company does not believe it is reasonably possible that the amount of unrecognized tax benefits will significantly increase or decrease within the next 12 months .

Note 16 — Supplemental Statement of Cash Flows Information

Interest payments for fiscal years 2017 , 2016 and 2015 were approximately $86 million , $75 million and $75 million , respectively. Income taxes paid, net from continuing operations for fiscal years 2017 , 2016 and 2015 were approximately $384 million , $365 million and $411 million , respectively. For fiscal years 2017 , 2016 and 2015 , the excess tax benefits from share-based incentive awards included in financing activities from continuing operations were approximately $5 million , $4 million and $3 million , respectively.

Non-cash financing activities for fiscal years 2017 , 2016 and 2015 consisted of treasury common shares issued in connection with the following: share-based incentive awards issued under the Company's equity compensation plans of approximately $44 million (net of approximately $33 million of income taxes withheld), $43 million (net of approximately $28 million of income taxes withheld) and $44 million (net of approximately $28 million of income taxes withheld), respectively; discretionary stock contributions to the CA, Inc. Savings Harvest Plan of approximately $24 million , $24 million and $26 million , respectively; and treasury common shares issued in connection with the Company's Employee Stock Purchase Plan of approximately $5 million , $5 million and $5 million , respectively.

Note 17 — Segment and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting* , the Company disaggregates its operations into Mainframe Solutions, Enterprise Solutions and Services segments, which is utilized by the Chief Operating Decision Maker, who is the Company's Chief Executive Officer, for evaluating segment performance and allocating resources.

The Company's Mainframe Solutions and Enterprise Solutions segments are comprised of its software business organized by the nature of the Company's software offerings and the platforms on which the products operate. The Services segment is comprised of product implementation, consulting, customer education and customer training services, including those directly related to the Mainframe Solutions and Enterprise Solutions software that the Company sells to its customers.

The Company regularly enters into a single arrangement with a customer that includes mainframe solutions, enterprise solutions and services. The amount of contract revenue assigned to operating segments is generally based on the manner in which the proposal is made to the customer. The software product revenue assigned to the Mainframe Solutions and Enterprise Solutions segments is based on either: (1) a list price allocation method (which allocates a discount in the total contract price to the individual products in proportion to the list price of the products); (2) allocations included within internal contract approval documents; or (3) the value for individual software products as stated in the customer contract. The price for the implementation, consulting, education and training services is separately stated in the contract and these amounts of contract revenue are assigned to the Services segment. The contract value assigned to each operating segment is then recognized in a manner consistent with the revenue recognition policies the Company applies to the customer contract for purposes of preparing the Consolidated Financial Statements.

Segment expenses include costs that are controllable by segment managers (*i.e.* , direct costs) and, in the case of the Mainframe Solutions and Enterprise Solutions segments, an allocation of shared and indirect costs (*i.e.* , allocated costs). Segment-specific direct costs include a portion of selling and marketing costs, licensing and maintenance costs, product development costs and general and administrative costs. Allocated segment costs primarily include indirect and non-segment-specific direct selling and marketing costs and general and administrative costs that are not directly attributable to a specific segment. The basis for allocating shared and indirect costs between the Mainframe Solutions and Enterprise Solutions segments is dependent on the nature of the cost being allocated and is either in proportion to segment revenues or in proportion to the related direct cost category. Expenses for the Services segment consist of cost of professional services and other direct costs included within selling and marketing and general and administrative expenses. There are no allocated or indirect costs for the Services segment.

Segment expenses do not include amortization of purchased software, amortization of other intangible assets, amortization of internally developed software products, share-based compensation expense, approved severance and facility actions by the Board and other miscellaneous costs. A measure of segment assets is not currently provided to the Company's Chief Executive Officer and has therefore not been disclosed.

For fiscal year 2015, the Company incurred severance costs associated with the Fiscal 2015 Severance Actions, of which $17 million , $15 million and $8 million were assigned to the Mainframe Solutions, Enterprise Solutions and Services segments, respectively. Refer to Note 4, "Severance and Exit Costs," for additional information.

The Company's segment information for fiscal years 2017 , 2016 and 2015 was as follows:

Year Ended March 31, 2017 *(dollars in millions)*	Mainframe Solutions	Enterprise Solutions	Services	Total
Revenue	$ 2,182	$ 1,553	$ 301	$ 4,036
Expenses	851	1,378	302	2,531
Segment profit (loss)	$ 1,331	$ 175	$ (1)	$ 1,505
Segment operating margin	61%	11%	— %	37%
Depreciation	$ 34	$ 24	$ —	$ 58

Reconciliation of segment profit to income from continuing operations before income taxes for fiscal year 2017 :

Segment profit	$	1,505
Less:		
Purchased software amortization		164
Other intangibles amortization		19
Internally developed software products amortization		79
Share-based compensation expense		108
Interest expense, net		62
Income from continuing operations before income taxes	$	1,073

Year Ended March 31, 2016 *(dollars in millions)*		Mainframe Solutions		Enterprise Solutions		Services		Total
Revenue	$	2,215	$	1,484	$	326	$	4,025
Expenses		854		1,337		303		2,494
Segment profit	$	1,361	$	147	$	23	$	1,531
Segment operating margin		61%		10%		7%		38%
Depreciation	$	36	$	26	$	—	$	62

Reconciliation of segment profit to income from continuing operations before income taxes for fiscal year 2016 :

Segment profit	$	1,531
Less:		
Purchased software amortization		146
Other intangibles amortization		44
Internally developed software products amortization		110
Share-based compensation expense		97
Other gains, net (1)		(1)
Interest expense, net		51
Income from continuing operations before income taxes	$	1,084

(1) Other gains, net consists of miscellaneous items.

Year Ended March 31, 2015 *(dollars in millions)*		Mainframe Solutions		Enterprise Solutions		Services		Total
Revenue	$	2,392	$	1,519	$	351	$	4,262
Expenses		970		1,353		342		2,665
Segment profit	$	1,422	$	166	$	9	$	1,597
Segment operating margin		59%		11%		3%		37%
Depreciation	$	43	$	28	$	—	$	71

Reconciliation of segment profit to income from continuing operations before income taxes for fiscal year 2015 :

Segment profit	$	1,597
Less:		
Purchased software amortization		124
Other intangibles amortization		58
Internally developed software products amortization		149
Share-based compensation expense		87
Other expenses, net (1)		17
Interest expense, net		47
Income from continuing operations before income taxes	$	1,115

(1) Other expenses, net consists of costs associated with the Fiscal Year 2014 Rebalancing Plan and other miscellaneous items.

The following table presents information about the Company by geographic area for fiscal years 2017 , 2016 and 2015 :

(in millions)		United States		EMEA (1)		Other		Eliminations		Total
Year Ended March 31, 2017										
Revenue:										
From unaffiliated customers	$	2,586	$	887	$	563	$	—	$	4,036
Between geographic areas (2)		419		—		—		(419)		—
Total revenue	$	3,005	$	887	$	563	$	(419)	$	4,036
Property and equipment, net	$	105	$	93	$	39	$	—	$	237
Total assets	$	9,018	$	2,736	$	856	$	—	$	12,610
Total liabilities	$	5,502	$	934	$	485	$	—	$	6,921
Year Ended March 31, 2016										
Revenue:										
From unaffiliated customers	$	2,585	$	903	$	537	$	—	$	4,025
Between geographic areas (2)		400		—		—		(400)		—
Total revenue	$	2,985	$	903	$	537	$	(400)	$	4,025
Property and equipment, net	$	109	$	96	$	37	$	—	$	242
Total assets	$	8,185	$	2,170	$	849	$	—	$	11,204
Total liabilities	$	4,646	$	728	$	452	$	—	$	5,826
Year Ended March 31, 2015										
Revenue:										
From unaffiliated customers	$	2,615	$	1,008	$	639	$	—	$	4,262
Between geographic areas (2)		438		—		—		(438)		—
Total revenue	$	3,053	$	1,008	$	639	$	(438)	$	4,262
Property and equipment, net	$	112	$	97	$	43	$	—	$	252
Total assets	$	8,122	$	1,874	$	977	$	—	$	10,973
Total liabilities	$	4,041	$	809	$	498	$	—	$	5,348

(1) Consists of Europe, the Middle East and Africa.

(2) Represents royalties from foreign subsidiaries determined as a percentage of certain amounts invoiced to customers.

Revenue is allocated to a geographic area based on the location of the sale, which is generally the customer’s country of domicile. No single customer accounted for 10% or more of total revenue for fiscal year 2017 , 2016 or 2015 .

Note 18 — Profit Sharing Plan

The Company maintains a defined contribution plan for the benefit of its U.S. employees. The plan is intended to be a tax qualified plan under Section 401(a) of the Internal Revenue Code, and contains a qualified cash or deferred arrangement as described under Section 401(k) of the Internal Revenue Code. Eligible participants may elect to contribute a percentage of their base compensation and the Company may make matching contributions.

The Company recognized costs associated with this plan of approximately $37 million , $38 million and $38 million for fiscal years 2017 , 2016 and 2015 , respectively. Included in these amounts were discretionary stock contributions of approximately $24 million , $25 million and $24 million for fiscal years 2017 , 2016 and 2015 , respectively.

SCHEDULE II

CA, Inc. and Subsidiaries

Valuation and Qualifying Accounts

Description	Balance at Beginning of Period	Additions/(Deductions) Charged/(Credited) to Costs and Expenses	Deductions [1]	Balance at End of Period
Allowance for doubtful accounts *(in millions)*				
Year Ended March 31, 2017	$ 9	$ 3	$ (1)	$ 11
Year Ended March 31, 2016	$ 17	$ (2)	$ (6)	$ 9
Year Ended March 31, 2015	$ 19	$ 1	$ (3)	$ 17

(1) Write-off of amounts against allowance provided

Exhibit 12

CA, Inc.

STATEMENT OF RATIOS OF EARNINGS TO FIXED CHARGES

(in millions, except ratios)

	2013	2014	2015	2016	2017
Earnings available for fixed charges:					
Earnings from continuing operations before income taxes, minority interest and discontinued operations	$ 1,260	$ 1,016	$ 1,115	$ 1,084	$ 1,073
Add: Fixed charges	113	123	125	128	136
Total earnings available for fixed charges	$ 1,373	$ 1,139	$ 1,240	$ 1,212	$ 1,209
Fixed charges:					
Interest expense (1)	$ 64	$ 75	$ 77	$ 81	$ 90
Interest portion of rental expense	49	48	48	47	46
Total fixed charges	$ 113	$ 123	$ 125	$ 128	$ 136
RATIOS OF EARNINGS TO FIXED CHARGES	12.15	9.26	9.92	9.47	8.89
Deficiency of earnings to fixed charges	n/a	n/a	n/a	n/a	n/a

(1) Includes amortization of discount related to indebtedness

Exhibit 21

CA, INC.

Subsidiaries of the Registrant

The following is a list of subsidiaries of the Registrant, omitting some subsidiaries which, considered in the aggregate, would not constitute a significant subsidiary.

Name of Subsidiary	Jurisdiction of Incorporation or Organization
CA Canada Company	Canada
CA Europe Holding B.V.	Netherlands
CA Europe Sarl	Switzerland
CA Foreign Spain, S.L.U.	Spain
CA Foreign, Inc.	Delaware
CA Global Holdings	Bermuda
CA Marketing Corporation	Delaware
CA Software Holding B.V.	Netherlands
Computer Associates Holding 4 B.V.	Netherlands
Computer Associates Luxembourg S.a.r.l.	Luxembourg

Exhibit 23

Consent of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
CA, Inc.:

We consent to the incorporation by reference in the registration statement (No. 333-196619) on Form S-3 and the registration statements (Nos. 333-183731, 333-177558, 333-176166, 333-146173, 333-120849, 333-108665, 333-100896, 333-88916, 333-32942, 333-31284, 333-83147, 333-80883, 333-79727, 333-62055, 333-19071, 333-04801, 333-127602, 333-127601, 333-126273, 33-64377, 33-53915, 33-53572, 33-34607, 33-18322, 33-20797, 2-92355, 2-87495 and 2-79751) on Form S-8 of CA, Inc. and subsidiaries of our report dated May 12, 2017 , with respect to the consolidated balance sheets of CA, Inc. and subsidiaries as of March 31, 2017 and 2016 , and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the fiscal years in the three-year period ended March 31, 2017 , and the related financial statement schedule, and the effectiveness of internal control over financial reporting as of March 31, 2017 , which report appears in the March 31, 2017 annual report on Form 10-K of CA, Inc.

/s/ KPMG LLP

New York, New York

May 12, 2017

Exhibit 24

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned, being a director or officer of CA, Inc., a Delaware corporation (the "Company"), hereby constitutes and appoints Michael P. Gregoire, Kieran J. McGrath, Michael C. Bisignano, Kristen W. Prohl and Anthony J. Radesca, and each of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead in any and all capacities, to sign one or more Annual Reports for the Company's fiscal year ended March 31, 2017 on Form 10-K under the Securities Exchange Act of 1934, as amended, or such other form as any such attorney-in-fact may deem necessary or desirable, any amendments thereto, and all additional amendments thereto, each in such form as they or any one of them may approve, and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done so that such Annual Report shall comply with the Securities Exchange Act of 1934, as amended, and the applicable Rules and Regulations adopted or issued pursuant thereto, as fully and to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or their substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has hereunto set his or her hand this 12th day of May, 2017.

Signature
/s/ Michael P. Gregoire
Michael P. Gregoire Director and Chief Executive Officer (Principal Executive Officer)
/s/ Kieran J. McGrath
Kieran J. McGrath Executive Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Anthony J. Radesca
Anthony J. Radesca Senior Vice President, Chief Accounting Officer (Principal Accounting Officer)

Signature

/s/ Jens Alder
Jens Alder

/s/ Raymond J. Bromark
Raymond J. Bromark

/s/ Rohit Kapoor
Rohit Kapoor

/s/ Jeffrey G. Katz
Jeffrey G. Katz

/s/ Kay Koplovitz
Kay Koplovitz

/s/ Christopher B. Lofgren
Christopher B. Lofgren

/s/ Richard Sulpizio
Richard Sulpizio

/s/ Laura S. Unger
Laura S. Unger

/s/ Arthur F. Weinbach
Arthur F. Weinbach

/s/ Renato (Ron) Zambonini
Renato (Ron) Zambonini

Exhibit 31.1

CEO CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael P. Gregoire, certify that:

1. I have reviewed this Annual Report on Form 10-K of CA, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 12, 2017

/s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer

Exhibit 31.2

CFO CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Kieran J. McGrath, certify that:

1. I have reviewed this Annual Report on Form 10-K of CA, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 12, 2017

/s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
(18 U.S.C. SECTION 1350)

In connection with the Annual Report on Form 10-K of CA, Inc., a Delaware corporation (the “Company”), for the fiscal year ended March 31, 2017 as filed with the Securities and Exchange Commission (the “Report”), each of Michael P. Gregoire, Chief Executive Officer of the Company, and Kieran J. McGrath, Executive Vice President and Chief Financial Officer of the Company, hereby certifies, pursuant to §906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. §1350), that to his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer
May 12, 2017

/s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer
May 12, 2017

The foregoing certification will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liability of that Section. The foregoing certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that the Company specifically incorporates it by reference.