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

FORM 10-K

(Mark One)

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

For the fiscal year ended March 31, 2018

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 __ü__ 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 __ü__

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 __ü__ 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 _ü_ 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 __ü__ Accelerated filer ____ Non-accelerated filer ____ Smaller reporting company ____

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ____

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

The aggregate market value of the common stock held by non-affiliates of the registrant as of September 29, 2017 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately $10.3 billion based on the closing price of $33.38 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 2, 2018 was 416,617,226 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 2018 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 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 2018, fiscal 2017, fiscal 2016, fiscal 2015, etc. are to our fiscal years ended on March 31, 2018, 2017, 2016, 2015, etc., respectively.

Part I

Item 1. Business.

Overview

CA Technologies is a global leader in software solutions that simplify complex enterprise environments. Our solutions enable customers to plan, develop, automate, manage and secure applications across mobile, cloud, distributed and mainframe platforms. Many of the largest companies in the world, including most of the Fortune 500 and many government agencies, rely on CA software to help manage and secure their hybrid cloud environments.

Our mission is to eliminate the barriers between ideas and business outcomes. To achieve this, we have built a portfolio of solutions that enable customers to leverage the benefits of agility, automation, insights and security in managing business processes and technology investments. Customers are transforming their businesses to better manage the market demands for speed, exceptional customer experience and rich analytics. We believe this journey, broadly referred to as digital transformation, is fueled by software.

Operating Segments

In fiscal 2018, our business was organized in three distinct but highly complementary operating segments: Enterprise Solutions, Mainframe Solutions and Services. These also represented the operating segments used by our Chief Executive Officer for evaluating our performance and allocating resources.

- Our *Enterprise Solutions* segment includes a broad range of software planning, development, and management tools. More specifically, our solutions help customers with secure application development, infrastructure management, automation, and identity-centric security solutions. These products are designed for mobile, cloud, and distributed computing environments and run on industry standard servers.
- Our *Mainframe Solutions* segment includes solutions 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, increasing business agility through DevOps tooling and processes, increasing reliability and availability of operations through machine intelligence and automation solutions, and protecting enterprise data with security and compliance.
- Our *Services* segment helps customers reach their information technology ("IT") and business goals primarily by enabling the rapid implementation and adoption of our software solutions. Our 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 900 certified consultants, architects, project managers and advisors located in 31 countries and an extensive partner ecosystem, CA Services works with customers to navigate complex business and technology challenges.

Our segments strengthen each other in several ways. Our customers benefit from the ability of CA solutions to span their entire infrastructure stack, across mobile, cloud, distributed, 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 mobile, cloud, open systems and mainframe environments. This hybrid cloud capability helps customers remove the barriers between ideas and business outcomes. We are able to bidirectionally leverage our core strengths and development efforts in our products within the Enterprise Solutions segment to bring new innovations to the Mainframe Solutions segment and vice versa. Our strong market position enables our investment in development, innovation and support of the mainframe platform to be among the largest in the industry, which sustains ongoing customer commitment to our Mainframe Solutions. We leverage our core strengths and development efforts across platforms, allowing customers to apply automation that improves quality and efficiency while enabling flexibility to optimize their technology assets. Our solutions help customers bridge their historical investments to the frameworks and architectures they are building for the future. Our Services segment leverages our expertise across our Mainframe Solutions and Enterprise Solutions segments and helps customers deploy and maintain our solutions. Refer to Note 16, "Segment and Geographic Information," in the Notes to the Consolidated Financial Statements for financial data pertaining to our segment and geographic operations.

Focus of Our Business

The focus of our business is aligned around three strategic pillars: Agile, DevOps and Security, each of which contain portfolios of solutions spanning the continuum of platforms, from mobile to mainframe.

Agile

Our Agile portfolio defines how work is planned, executed and serviced to deliver rapid value to our customers, and enables customers to plan, deliver, manage and optimize application development and project management. Our capabilities within Agile include:

- *Agile Planning* helps customers transform their development practices from traditional to modern agile methodologies. Agile development utilizes an iterative work cadence with a feedback loop that decreases time-to-market, increases product quality and, most importantly, maintains a focus on generating rapid business value. CA's cloud-based solutions in this space help customers to collaboratively plan, prioritize and track agile software development at scale.
- *Project & Portfolio Management*, which is highly complementary to Agile Planning, enables customers to collect, prioritize, plan and deliver products, services and customer experiences. CA's solutions improve decision making processes and resource optimizations, and decrease project execution risk.

DevOps

Our DevOps portfolio accelerates software delivery and enables customers to more efficiently deliver and manage applications and infrastructure. The portfolio empowers developers with a rich set of tools that help simplify, automate, and make their processes and applications more robust. They enable better experiences for developers and for the end users of their higher quality applications. Our DevOps portfolio strategy is platform agnostic, providing customers the flexibility to optimize workloads across mobile, cloud, on-premise, and mainframe environments. Our capabilities within DevOps include:

- *Continuous Delivery* optimizes the application development processes by automating the deployment of applications across all stages of their lifecycles. Continuous delivery is key to transforming the technical aspects of software delivery. Our solutions enable the development, testing and release teams to work concurrently and continuously to remove the excess overhead and delays that come with traditional software development.
- *Automation* solutions help customers transform business processes. They automate, orchestrate and accelerate the entire application delivery process. Our unified platform provides end-to-end automation capabilities that cover service orchestration, workload automation and release automation capabilities.
- *Agile Operations* helps customers correlate end-user, application and infrastructure data from cloud-hosted containers to mainframes. Our solutions help customers see application dependencies and provide intelligent analytics, comprehensive coverage, and an open, extensible architecture that improves end-user experience.
- *API (Application Programming Interface) Management* facilitates the creation, security and management of APIs through their lifecycle, enabling customers to connect more directly with end-users via mobile apps, cloud platforms and "Internet of Things" devices.

Security

Our Security portfolio provides customers, employees and partners seamless access to the right data, regardless of the underlying platform. Our Security portfolio is designed to minimize the risk of data breaches and alleviate the increased pressures faced by chief information security officers. Our capabilities within Security include:

- *Application Security* offers a holistic and scalable way to manage security risk across an application lifecycle. Through our acquisition of Veracode, we provide a wide range of security testing and threat mitigation techniques. Our solution is hosted on a unified application security testing platform and integrates into existing development toolchains. This enables users to quickly identify and remediate security flaws earlier in the development process and supports the development of high-quality, secure code.
- *Identity & Access Management* provides enterprise-grade identity management and governance capabilities, including broad provisioning support for on-premises and cloud-based applications, extensibility and flexibility to integrate with other IT systems and consumer-grade scale.
- *Privileged Access Management* enables organizations to control and monitor the access and activity of privileged users, or users with elevated access or administrator rights. Our solutions help detect and prevent the threat of internal and external attacks leveraging both network and host-based controls for the enterprise and hybrid cloud.
- *Payment Security* is a software as a service ("SaaS")-based payment authentication service to help banks protect against fraud and ensure a hassle-free online shopping experience for their customers.

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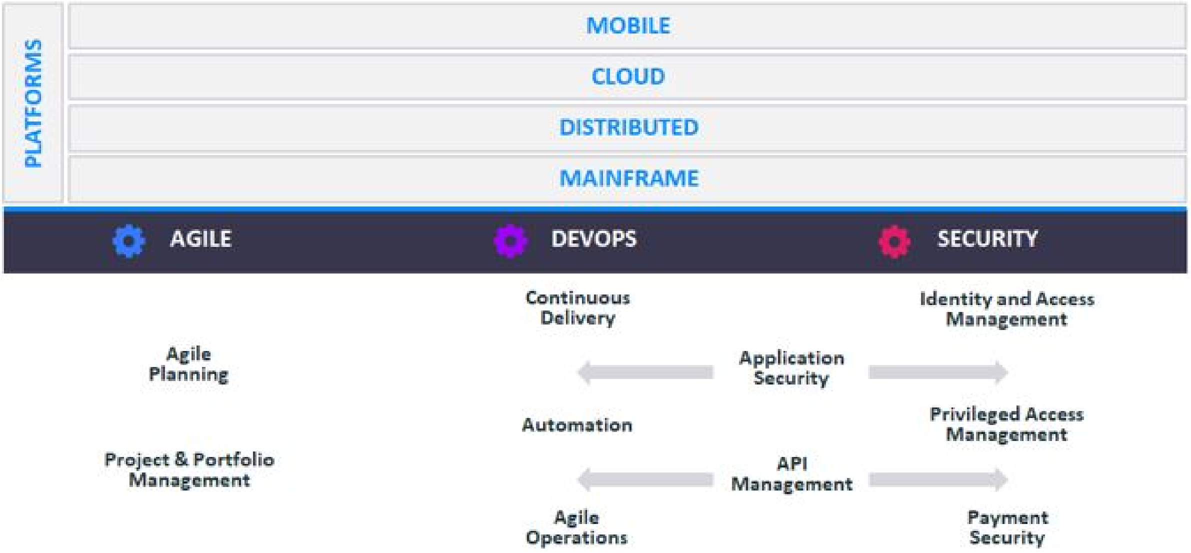
Figure 1 - Portfolio and Platform Overview



Business Strategy

Our goal is to be the world's leading independent enterprise software provider that helps 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, artificial intelligence, machine learning 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 chief information security officers and chief development officers impact 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 provide them with the necessary interoperability, resilience and security to operate at scale in the large, heterogeneous IT environments utilized by our customers.

Fiscal 2018 Developments and Highlights

The following are significant developments and highlights relating to our business during fiscal 2018:

- In November 2017, we held our user conference, CA World ‘17. This event showcased the most extensive list of products in recent Company history, with more than 20 new offerings and enhancements designed to help customers leverage agile practices, intelligent automation, data insights and end-to-end security for better and faster business outcomes.
- In February 2018, Jean M. Hobby was elected as a member of the Company’s Board of Directors.
- In February 2018, Ethisphere Institute named CA Technologies one of the World’s Most Ethical Companies.
- In fiscal 2018, CA Technologies was recognized as a leader in 20 industry analyst reports.

Organizational Update

Effective May 3, 2018, Adam Elster no longer serves as our President, Global Field Operations. Mr. Elster will remain employed through August 17, 2018 in order to be available to assist with an orderly transition. We have inserted interim leadership as an external search for Mr. Elster’s replacement is underway.

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 and collections associated with these bookings, financial results 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, transportation companies, 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 2018, 2017 or 2016. Approximately 7% and 6% of our total revenue backlog at March 31, 2018 and 2017, 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 and digital sales forces as well as indirectly through our partners. We remain focused on strengthening relationships and increasing penetration within our core customers and partners - approximately our top 2,000 accounts. We refer to this key group of customers as “Enterprise” accounts. We believe maintaining and expanding our relationships within our traditional customer base of large enterprises with multi-year agreements will continue to drive renewals and provide opportunities to increase account penetration to help drive revenue growth. We address our “Commercial” account opportunities through partners and our digital sales efforts. We believe this group of customers and potential customers represents an opportunity for us to leverage a cost-effective distribution network to sell to net new customers and increase our share of wallet at customers where we have lower levels of penetration.

We are working to accelerate the velocity of our sales transactions and are implementing initiatives to drive consistent improvement in sales execution. We are continuing to shift to a more solutions-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 opportunities. We continue to increase investment in our digital sales and marketing organization to drive additional new land and expand opportunities. This enables us to cost effectively scale our reach to a broader set of buyers.

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 37% and 36% of our revenue in fiscal 2018 and 2017, respectively, was from operations outside of the United States. At March 31, 2018 and 2017, we had approximately 2,800 and 3,000, respectively, of sales and sales support personnel.

Marketing has played a key role in the ongoing transformation of our Company. It has helped to reshape perceptions of CA and to build capability that enables us to better serve our customers’ 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 is driving interest in our offerings. The concept of the “Modern Software Factory” is resonating with customers and helps to reinforce the value proposition of CA’s portfolio of solutions. 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 via digital marketing. Our marketing and sales organizations 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 strategic 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 jointly build business with our partners in all our geographic regions through 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, usually via outsourcing arrangements, 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.

Global Customer Success

The Global Customer Success (“GCS”) organization is made up of customer experience designers, customer advocates, technical support engineers, community managers and an advanced customer data analytics team that share a 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 team within GCS works 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 within GCS work with customers during trials and after the sale to assist in migration and upgrades, resolve issues 24/7, create self-help knowledge documentation, and proactively mitigate risks to prevent issues before they occur. CA Support operates in 42 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 61,000 community members in our 50 most active 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 United States, including California, Colorado, Illinois, Massachusetts, New York, Pennsylvania, and Texas. Internationally, we have principal centers in Austria, Canada, Czech Republic, India, and Israel.

In fiscal 2018, research and development continued to focus on developing solutions that are easy for customers to buy, 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, 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 "Internet of Things". This model helps ensure 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 our Office of the Chief Technology Officer Research and Open Source and Open Standards initiatives 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 $642 million, $586 million, and $560 million in fiscal 2018, 2017 and 2016, 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 product strategy and 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, 2018, our patent portfolio included more than 1,500 issued patents and more than 950 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.

Licensing and Engagements with Customers

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 one to five-year terms, although some large customers may negotiate longer terms. Thereafter, the license generally renews for the same period of time on the same terms and conditions.

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 license based on millions of instructions per second (“MIPS”), 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 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 and maintenance 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.

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. Some of our SaaS business is transaction or usage-based. 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: continually changing customer needs, rapid technological change; frequent emergence of new companies and products; evolving industry standards, computing platforms, go-to-market approaches and business models.

Our competition can generally be categorized into the following groups:

- A broad set of point product vendors in a number of our markets, many of which lack near-term profit expectations;
- Larger, vertically integrated technology companies that can bundle software to generate other revenue capture tied to hardware, platform, and services offerings;
- Continued expansion of cloud service provider offerings from Amazon Web Services, Microsoft Azure, and Google Cloud Platform embedded with management and security capabilities; and
- Increasing adoption of open source solutions that may substitute for commercial spend.

Among the companies with which we compete are: AppDynamics, Inc. (acquired by Cisco); Atlassian Corporation, Plc; BMC Software Inc.; BeyondTrust; Compuware Corporation; CyberArk Software, Ltd.; International Business Machines Corporation; Micro Focus; Microsoft Corporation; MuleSoft, Inc. (acquired by Salesforce.com, Inc. in May 2018); New Relic, Oracle Corporation; SailPoint, Inc.; ServiceNow, Inc.; SolarWinds, Inc.; Splunk, Inc.; and VMware, Inc.

We believe the combination of our breadth of portfolio of enterprise management tools, 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, deep industry experience, and strong balance sheet.

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 11,300 and 11,800 employees at March 31, 2018 and 2017, respectively.

Fiscal 2018 Employee Highlights

- In May 2017, we were named one of America's Best Employers by Forbes Magazine.
- In May 2017, we were named a Best Company for Multicultural Women by Working Mother Magazine.
- In September 2017, we were named one of Working Mother Magazine's 100 Best Companies.
- In November 2017, we received a perfect score of 100 percent on the 2018 Corporate Equality Index, a national benchmarking survey and report on corporate policies and practices related to LGBT workplace equality, administered by the Human Rights Campaign Foundation.
- In December 2017, we were named one of Fortune's Best Workplaces for Diversity by Great Places to Work®.
- In January 2018, we were included in Bloomberg's first Sector-Neutral Gender-Equality Index.
- In March 2018, we were named one of NAFE's Top Companies for Executive Women by the National Association for Female Executives.

Financial Information About Geographic Areas

Refer to Note 16 "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; 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 risks, some of which are beyond our control, could materially adversely affect our business, financial condition, operating results and cash flow, which could negatively impact our stock price.

Failure to execute our growth strategy could materially adversely affect our business, financial condition, operating results and cash flow.

Our business strategy is to create long-term sustainable growth, both organically and through acquisitions, while selling products and services that address customer needs and capitalize on current and next-generation market opportunities. The success of this strategy could be affected by our ability to:

- Ensure that any new offerings address the needs of a rapidly changing market while not adversely affecting demand for our traditional products;
- Execute renewals within our existing customer base at acceptable renewal rates;
- Expand relationships with our global customer base and address opportunities with new customers (*e.g.*, in geographic regions where we have underserved, or with chief information security officers and chief development officers, who have not been our traditional customers) at levels sufficient to offset any declines in revenue in our Mainframe Solutions segment, which is subject to an industry-wide decline due to new technologies, and in mature product lines in our Enterprise Solutions segment;
- Effectively manage the strategic shift in our business model to increase sales through our digital sales forces and indirectly through our partners, as well as provide additional SaaS offerings, offer try-and-buy models 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.

If we are unable to successfully execute our growth strategy, there could be a material adverse effect on our business, financial condition, operating results and cash flow.

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

Our business strategy is based upon our ability to develop and acquire products and services that are accepted by the market better than those of our competitors. There can be no assurance that we will effectively meet these competitive demands. The markets for our products and services are intensely competitive, and we expect product and service offerings and pricing competition to continue. 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. We also face competition from numerous start-ups and smaller companies that specialize in specific aspects of the highly fragmented software industry, and from open source authors who may provide software and intellectual property for free, competitors who may offer their products through try-and-buy or freemium models, and customers who may develop competing products. Competition from any of these sources could also result in price reductions or displacement of our products, which could materially adversely affect our financial results.

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 the provision of services similar to those provided by us, could reduce the perceived need for our products and services, or render our products obsolete and unmarketable. 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. The increased bundling of products and services and industry consolidation may adversely affect our competitive position, which could materially adversely affect our sales, revenue and market presence. Refer to Part I, Item 1, "Business - Competition," of this Form 10-K for additional information.

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

We operate in a highly competitive industry characterized by rapid technological changes, evolving industry standards, changes in customer requirements and new delivery methods. The newer 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 depends upon many factors, including the success of our existing 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), as well as our ability to provide successful, timely and adequate customer support. Further, as our existing products mature, they may become obsolete. 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.

We have experienced long development cycles and product delays in the past, particularly with some of our enterprise solutions, and even with 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 to 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 may have invested substantial resources without realizing adequate revenues in return. Furthermore, there can be no assurance that as technologies become outdated or new delivery methods are required, we will be able to adopt or introduce them as quickly as our competitors, or within budgeted costs and time frames, which could adversely affect our business and reputation.

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. These companies periodically modify or introduce 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.

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;
- 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; and
- Trade restrictions such as tariffs, duties, taxes or other controls.

In addition, 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 increases our cost of doing business. These laws and regulations include restrictive local laws regarding the transfer of funds from, or the conversion of currencies in, certain countries, international intellectual property laws, which may be more restrictive or may offer lower levels of protection than U.S. law, as well 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 General Data Protection Regulation, which will become effective on May 25, 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.

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. 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, many of which are beyond our control, could materially adversely affect our business.

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

The success of our business depends on attracting new customers to our products and solution sets and retaining or increasing the level of revenues derived from existing customers. We utilize direct sales efforts, as well as third-party partners, to sell our products and solutions sets, and our sales efforts may be unsuccessful. Many of our existing customers have multi-year enterprise license agreements, some of which involve substantial aggregate fee amounts. These customers have no contractual obligation to purchase additional solutions. Customer 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 sell new license agreements and renew 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.

Failure to expand partner programs and failure by our partners to leverage their sales channels to drive our revenue growth 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 service providers to assist with and influence the sales of solutions to our top customers and we utilize resellers to better penetrate the partner-driven commercial market. The failure to expand partner programs or failure by our partners to leverage their sales channels could result in lost incremental sales opportunities that adversely affect our overall business success, including our market position.

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

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, which ability depends on, among other factors, the strength of our brand recognition. 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. As 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 lower 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, forcing us to use a higher proportion of cash compensation to incentivize our key personnel, or putting us at a competitive disadvantage.

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

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, 2016 and 2017, which creates new Accounting Standards Codification 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. Under Topic 606, more judgment and estimates will be required within the revenue recognition process than are required under existing GAAP. We currently anticipate that this standard will have a material effect on our consolidated financial statements, revenue recognition policies and related disclosures. We also presently anticipate that this standard could create volatility in our reported revenue and operating results, which could negatively impact our stock price. We currently believe the most significant effect relates to the timing of the recognition of our software license revenue. As a result, a significant portion of our revenue backlog (*i.e.*, deferred revenue and future billings on committed contracts) relating to the license component of customer contracts at March 31, 2018 under existing GAAP will not be recognized as revenue in future periods but instead will be included as part of the cumulative effect adjustment within retained earnings upon adoption of Topic 606. Refer to Note 1, "Significant Accounting Policies," in the Notes to the Consolidated Financial Statements for additional information about Topic 606 and other new accounting pronouncements. Changes to existing rules, or changes to the interpretations of existing rules, could lead to changes in our accounting policies, systems and internal controls over financial reporting. For example, in connection with our adoption of Topic 606, we are developing new policies and processes based on the changes in revenue recognition guidance and implementing a new revenue recognition accounting system. Such changes and any difficulties implementing such changes could materially adversely affect our reported financial results and the effectiveness of our internal controls.

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 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 with any such acquisition or integration of an acquisition 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 and through our partner programs;
- 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. Furthermore, 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. The occurrence of any of these risks could have a material adverse effect on our business, results of operations, financial condition and cash flow.

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, as could our software being utilized by our customers. 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 it is possible that certain cyber threats or vulnerabilities will be undetected or unmitigated in time to prevent an attack on us and our customers. 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 involving our data center, network or software products 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. For example, in connection with our adoption of Topic 606, we are implementing a new revenue recognition accounting system. 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, which is frequently disruptive to the underlying business. Additionally, delays in adapting our information systems to address new business models, such as SaaS, or the adoption of Topic 606 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 adversely affect our ability to manage and grow our business, including our SaaS business.

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 or tightening of credit markets could cause our current or any new customers to have difficulty accessing credit sources, delay contractual payments, or delay or forgo decisions to (i) license our products (particularly with respect to discretionary spending for software), (ii) upgrade existing environments or (iii) purchase services.

Furthermore, 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, 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, any of which could affect the manner in which we are able to conduct business.

Our sales to government clients subject us to uncertainties regarding fiscal funding approvals, renegotiations or terminations 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 7% of our total revenue backlog at March 31, 2018 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.

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. As a result, fluctuations of the foreign exchange rates could result in financial losses.

Discovery of errors or omissions in our software products could materially adversely affect our revenue and earnings.

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. 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, which could cause us to 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 revenue and earnings.

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. Failure to protect such technology could lead to the loss of valuable assets and our competitive advantage. Refer to Part I, Item 1, “Business - Intellectual Property,” of this Form 10-K for additional information.

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.

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 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 and could materially adversely affect our business, financial condition, operating results and cash flow.

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, and divert our management’s attention, any of which could materially adversely affect our business.

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.

The Tax Cuts and Jobs Act enacted on December 22, 2017 (the "Tax Act") includes significant changes to the U.S. corporate income tax system, including a permanent reduction in the corporate income tax rate, limitations on the deductibility of executive compensation and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. This new law also includes a provision that imposes a transition tax on foreign earnings whether or not such earnings are repatriated to the U.S. We have provided provisional amounts to estimate the tax impacts of the Tax Act. We will continue to refine the provisional amounts as we review and analyze results from operations needed for calculations under the Tax Act, as well as further review the historic unremitted earnings of our foreign subsidiaries and take into consideration any additional regulatory guidance published by the U.S. tax authorities in respect of the Tax Act. Compliance with the Tax Act may require the collection of information not regularly produced within the Company, the use of estimates in our financial statements, interpretation of further regulatory guidance and the exercise of significant judgment in accounting for our tax provisions. The Company expects to finalize the tax expense as soon as practical, but not later than the third quarter of fiscal 2019, and such updates to our calculations may differ, possibly materially, from the provisional amounts previously recorded.

We are regularly under audit by tax authorities. We believe our tax estimates are reasonable, including the provisional amounts relating to the Tax Act. However, 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, as well as further guidance to clarify or interpret uncertainties in the tax laws, such as the Tax Act, 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 14, "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, 2018 and 2017, we had $2,783 million and $2,791 million, respectively, of debt outstanding, consisting mostly of unsecured senior note obligations. Refer to Note 7, "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 financial condition and operating results.

Failure by us to effectively execute on our announced restructuring plans could result in total costs that are greater than expected or revenues that are less than anticipated.

In May 2018, we announced a restructuring plan, which includes workforce reductions, global facility exits and consolidations and other cost reduction initiatives, to better align our business priorities. We may have further workforce reductions, global facility exits and consolidations and other cost reduction initiatives in the future, as part of this restructuring plan or subsequent plans. Risks associated with these actions include delays in implementation, changes in plans that increase or decrease the number of employees affected, adverse effects on employee morale and the failure to meet operational targets due to the loss of employees, any of which may impair our ability to achieve anticipated cost reductions or may otherwise harm our business, which could materially adversely affect our financial condition, operating results and cash flow.

We have outsourced various functions to third parties that 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 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, or the potential loss of personally identifiable information of our customers, employees and business partners that could subject us to legal action by government authorities or private parties.

There is no assurance that we will continue to pay dividends or repurchase shares of our common stock in any particular amount or at all.

The payment of a regular quarterly cash dividend and the repurchase of shares of our common stock is subject to, among other things, the best interests of the Company and our stockholders, our financial condition, historical and forecast operating results, and available cash flow, as well as any applicable laws and contractual covenants and any other factors that our Board of Directors may deem relevant. A reduction in or elimination of our dividend payments or stock repurchases could have an adverse effect on the price of our common stock.

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, 2018, we leased 43 facilities throughout the United States and 57 facilities outside the United States. Our lease obligations expire on various dates with the longest commitment extending to fiscal 2029. 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 10, "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 9, 2018 are listed below:

Michael P. Gregoire, 52, 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.

Lauren P. Flaherty, 60, has been the Company's Executive Vice President and Chief Marketing Officer since August 2013. She is responsible for all facets of the Company's marketing efforts. Previously, she was Executive Vice President and Chief Marketing Officer at Juniper Networks, Inc., which develops and markets networking products, where she led the company's global marketing activities, 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.

Ava M. Hahn, 45, has been the Company's Executive Vice President, General Counsel and Corporate Secretary since February 2018, and the Company's Chief Ethics and Compliance Officer since May 2018. She is responsible for overseeing the Company's legal organization worldwide. Previously, she was General Counsel at Kleiner Perkins Caufield & Byers LLC, a venture capital firm, from May 2017 to January 2018, General Counsel and Partner at Felicis Ventures, a venture capital firm, from June 2016 to May 2017, General Counsel and Corporate Secretary at Aruba Networks, Inc., a wireless networking company, from April 2013 to May 2016, and General Counsel and Corporate Secretary at ShoreTel, Inc., a telecommunications company, from June 2007 to March 2013.

Jacob Lamm, 53, 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, 59, has been the Company's Executive Vice President and Chief Financial Officer since November 2016. He is responsible for the Company's corporate and business unit financial functions worldwide. 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, where he held a variety of senior executive finance positions across the company, including leading the finance department for IBM's Software Group, from January 2009 until August 2014.

Paul L. Pronsati, 60, 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, 55, 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, where he oversaw the vision and engineering direction for Cisco System's software strategy. He was previously Senior Vice President of Engineering, Network Operating System Group at Cisco Systems from February 2012 to August 2014 and Vice President of Engineering, Enterprise Switching Group at Cisco Systems 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 2018		Fiscal 2017	
	High	Low	High	Low
Fourth Quarter	$ 37.12	$ 32.66	$ 33.25	$ 30.95
Third Quarter	$ 34.29	$ 32.12	$ 33.29	$ 30.41
Second Quarter	$ 35.03	$ 30.85	$ 34.85	$ 31.95
First Quarter	$ 35.80	$ 31.04	$ 33.58	$ 29.36

At April 30, 2018, we had approximately 4,400 stockholders of record.

We have paid cash dividends each year since July 1990. During each of fiscal 2018 and 2017, we paid annual cash dividends of $1.02 per share. During each of fiscal 2018 and 2017, we paid quarterly cash dividends of $0.255 per share.

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 2018:

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, 2018 — January 31, 2018	—	$ —	—	$ 506,509
February 1, 2018 — February 28, 2018	—	$ —	—	$ 506,509
March 1, 2018 — March 31, 2018	575	$ 34.74	575	$ 486,509
Total	575	$ 34.74	575	$ 486,509

In November 2015, our Board of Directors (the "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 2018, we repurchased 5.0 million shares of our common stock for $163 million. At March 31, 2018, we remained authorized to purchase $487 million of our common stock under our current stock repurchase program.

During fiscal 2017, we repurchased 3.1 million shares of our common stock for $100 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	2018	2017	2016	2015	2014
	(in millions, except per share amounts)				
Total revenue	$ 4,235	$ 4,036	$ 4,025	$ 4,262	$ 4,412
Income from continuing operations (1)	$ 476	$ 775	$ 769	$ 810	$ 887
Net cash provided by operating activities - continuing operations (2)	$ 1,198	$ 1,078	$ 1,066	$ 1,061	$ 1,007
Basic income per common share from continuing operations	$ 1.14	$ 1.85	$ 1.79	$ 1.83	$ 1.97
Diluted income per common share from continuing operations	$ 1.13	$ 1.85	$ 1.78	$ 1.82	$ 1.96
Dividends declared per common share (3)	$ 1.02	$ 1.02	$ 1.00	$ 1.00	$ 1.00

(1) In fiscal 2018, we incurred a tax charge of $290 million from reasonable estimates of the impact of changes in tax law in the United States from the Tax Cuts and Jobs Act ("Tax Act"). In fiscal 2014, we incurred after-tax charges of $114 million for costs associated with our fiscal year 2014 rebalancing plan.

(2) Net cash provided by operating activities - continuing operations for fiscal 2017, 2016, 2015 and 2014 were adjusted to reflect the adoption of Accounting Standards Update No. 2016-09 ("ASU 2016-09"), *Improvements to Employee Share-Based Payment Accounting* (Topic 718). Refer to Note 1, "Significant Accounting Policies," in the Notes to the Consolidated Financial Statements for further details.

(3) In fiscal 2018 and 2017, dividends declared per common share were $0.255 per quarter. In fiscal 2016, 2015 and 2014, dividends declared per common share were $0.25 per quarter.

	At March 31,				
Balance Sheet Data	2018	2017	2016	2015	2014
	(in millions)				
Working capital surplus (1)	$ 1,087	$ 727	$ 667	$ 1,048	$ 635
Working capital surplus, excluding current deferred revenue (2)	$ 3,376	$ 2,949	$ 2,864	$ 3,162	$ 3,054
Total assets	$ 13,060	$ 12,610	$ 11,204	$ 10,973	$ 12,008
Long-term debt (less current maturities)	$ 2,514	$ 2,773	$ 1,947	$ 1,247	$ 1,244
Stockholders' equity	$ 5,895	$ 5,689	$ 5,378	$ 5,625	$ 5,570

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

(2) 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 that simplify complex enterprise environments. Our solutions enable customers to plan, develop, automate, manage and secure applications across mobile, cloud, distributed and mainframe platforms. Many of the largest companies in the world, including most of the Fortune 500 and many government agencies, rely on CA software to help manage and secure their hybrid cloud environments.

Our mission is to eliminate the barriers between ideas and business outcomes. To achieve this, we have built a portfolio of solutions that enable customers to leverage the benefits of agility, automation, insights and security in managing business processes and technology investments. Customers are transforming their businesses to better manage the market demands for speed, exceptional customer experience and rich analytics. We believe this journey, broadly referred to as digital transformation, is fueled by software.

In fiscal 2018, our business was organized in three distinct but highly complementary operating segments: Enterprise Solutions, Mainframe Solutions and Services. These also represented the operating segments used by our Chief Executive Officer for evaluating our performance and allocating resources.

- Our *Enterprise Solutions* segment includes a broad range of software planning, development, and management tools. More specifically, our solutions help customers with secure application development, infrastructure management, automation, and identity-centric security solutions. These products are designed for mobile, cloud, and distributed computing environments and run on industry standard servers.
- Our *Mainframe Solutions* segment includes solutions 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, increasing business agility through DevOps tooling and processes, increasing reliability and availability of operations through machine intelligence and automation solutions, and protecting enterprise data with security and compliance.
- Our *Services* segment helps customers reach their information technology ("IT") and business goals primarily by enabling the rapid implementation and adoption of our software solutions. Our 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 segments strengthen each other in several ways. Our customers benefit from the ability of CA solutions to span their entire infrastructure stack, across mobile, cloud, distributed, 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 mobile, cloud, open systems and mainframe environments. This hybrid cloud capability helps customers remove the barriers between ideas and business outcomes. We are able to bidirectionally leverage our core strengths and development efforts in our products within the Enterprise Solutions segment to bring new innovations to the Mainframe Solutions segment and vice versa. Our strong market position enables our investment in development, innovation and support of the mainframe platform to be among the largest in the industry, which sustains ongoing customer commitment to our Mainframe Solutions. Our Services segment leverages our expertise across our Mainframe Solutions and Enterprise Solutions segments and helps customers deploy and maintain our solutions.

The focus of our business is aligned around three strategic pillars: Agile, DevOps and Security, each of which contain portfolios of solutions spanning the continuum of platforms, from mobile to mainframe.

Agile

Our Agile portfolio defines how work is planned, executed and serviced to deliver rapid value to our customers, and enables customers to plan, deliver, manage and optimize application development and project management. Our capabilities within Agile include:

- *Agile Planning* helps customers transform their development practices from traditional to modern agile methodologies. Agile development utilizes an iterative work cadence with a feedback loop that decreases time-to-market, increases product quality and, most importantly, maintains a focus on generating rapid business value. CA's cloud-based solutions in this space help customers to collaboratively plan, prioritize and track agile software development at scale.
- *Project & Portfolio Management*, which is highly complementary to Agile Planning, enables customers to collect, prioritize, plan and deliver products, services and customer experiences. CA's solutions improve decision making processes and resource optimizations, and decrease project execution risk.

DevOps

Our DevOps portfolio accelerates software delivery and enables customers to more efficiently deliver and manage applications and infrastructure. The portfolio empowers developers with a rich set of tools that help simplify, automate, and make their processes and applications more robust. They enable better experiences for developers and for the end users of their higher quality applications. Our DevOps portfolio strategy is platform agnostic, providing customers the flexibility to optimize workloads across mobile, cloud, on-premise, and mainframe environments. Our capabilities within DevOps include:

- *Continuous Delivery* optimizes the application development processes by automating the deployment of applications across all stages of their lifecycles. Continuous delivery is key to transforming the technical aspects of software delivery. Our solutions enable the development, testing and release teams to work concurrently and continuously to remove the excess overhead and delays that come with traditional software development.

- *Automation* solutions help customers transform business processes. They automate, orchestrate and accelerate the entire application delivery process. Our unified platform provides end-to-end automation capabilities that cover service orchestration, workload automation and release automation capabilities.
- *Agile Operations* helps customers correlate end-user, application and infrastructure data from cloud-hosted containers to mainframes. Our solutions help customers see application dependencies and provide intelligent analytics, comprehensive coverage, and an open, extensible architecture that improves end-user experience.
- *API (Application Programming Interface) Management* facilitates the creation, security and management of APIs through their lifecycle, enabling customers to connect more directly with end-users via mobile apps, cloud platforms and "Internet of Things" devices.

Security

Our Security portfolio provides customers, employees and partners seamless access to the right data, regardless of the underlying platform. Our Security portfolio is designed to minimize the risk of data breaches and alleviate the increased pressures faced by chief information security officers. Our capabilities within Security include:

- *Application Security* offers a holistic and scalable way to manage security risk across an application lifecycle. Through our acquisition of Veracode, we provide a wide range of security testing and threat mitigation techniques. Our solution is hosted on a unified application security testing platform and integrates into existing development toolchains. This enables users to quickly identify and remediate security flaws earlier in the development process and supports the development of high-quality, secure code.
- *Identity & Access Management* provides enterprise-grade identity management and governance capabilities, including broad provisioning support for on-premises and cloud-based applications, extensibility and flexibility to integrate with other IT systems and consumer-grade scale.
- *Privileged Access Management* enables organizations to control and monitor the access and activity of privileged users, or users with elevated access or administrator rights. Our solutions help detect and prevent the threat of internal and external attacks leveraging both network and host-based controls for the enterprise and hybrid cloud.
- *Payment Security* is a software as a service ("SaaS")-based payment authentication service to help banks protect against fraud and ensure a hassle-free online shopping experience for their customers.

Our goal is to be the world's leading independent enterprise software provider that helps 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, artificial intelligence, machine learning 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 provide 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, 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 one to five-year terms, although some large customers may negotiate longer terms. Thereafter, the license generally renews for the same period of time on the same terms and conditions.

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 and maintenance 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.

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. Some of our SaaS business is transaction or usage-based. 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.

Executive Summary

In general, we treat acquired technologies as organic in the quarter of their one-year anniversary date. Automic Holding GmbH ("Automic") was acquired during the fourth quarter of fiscal 2017 and, as such, was treated as organic in the fourth quarter of fiscal 2018. Therefore, the first three quarters of fiscal 2018 included inorganic results from our Automic acquisition. Since Veracode, Inc. ("Veracode") was acquired on the last day of fiscal 2017, it will be treated as organic in the first quarter of fiscal 2019 and, as such, all four quarters of fiscal 2018 included inorganic results from our Veracode acquisition.

A summary of key results for fiscal 2018 compared with fiscal 2017 is as follows:

Revenue

- Total revenue increased primarily due to an increase in software fees and other revenue and, to a lesser extent, an increase in subscription and maintenance revenue. During fiscal 2018, total revenue included $218 million of inorganic revenue from our Automic and Veracode acquisitions, primarily included in software fees and other revenue. In addition, there was a favorable foreign exchange effect of $51 million for fiscal 2018.

Bookings

- Total bookings decreased due to a decline in renewal bookings, which included a large system integrator transaction that occurred in the first quarter of fiscal 2017 with an incremental contract value in excess of $475 million.
- Renewal bookings decreased by a percentage in the low-20s primarily due to the aforementioned large system integrator transaction and the timing of our renewal portfolio.
- Total new product sales were generally consistent compared with the year-ago period. Excluding a favorable foreign exchange effect, total new product sales decreased by a percentage in the low single digits.

- Mainframe Solutions new product sales (which includes sales of mainframe products and mainframe capacity) decreased by a percentage in the low single digits primarily due to the aforementioned large system integrator transaction. Excluding the aforementioned large system integrator transaction, Mainframe Solutions new product sales increased by a percentage in the low teens primarily due to higher Mainframe Solutions new product sales attached to renewals compared with the year-ago period.
- Enterprise Solutions new product sales increased by a percentage in the low single digits. Excluding the aforementioned large system integrator transaction, Enterprise Solutions new product sales increased by a percentage in the mid-single digits due to our Automic and Veracode acquisitions. Excluding the aforementioned large system integrator transaction and Enterprise Solutions new product sales from our Automic and Veracode acquisitions, Enterprise Solutions new product sales decreased by a percentage in the low teens primarily due to a lower level of renewal bookings, which was attributable to the timing of our renewal portfolio. Typically, renewals provide an increased opportunity to generate new product sales.

Expenses

- Operating expenses increased due to $284 million of additional operating expenses associated with our Automic and Veracode acquisitions, which were mainly personnel-related. This increase was partially offset by decreases in non-acquisition-related costs, which included personnel-related costs, legal settlements and commission costs.

Income taxes

- Income tax expense for fiscal 2018 and 2017 was $545 million and $298 million, respectively. Our fiscal 2018 and 2017 effective tax rate was 53.4% and 27.8%, respectively. These increases resulted from additional income tax expense of $290 million related to the Tax Cuts and Jobs Act enacted on December 22, 2017 (the “Tax Act”).

Diluted income per common share

- Diluted income per common share from continuing operations decreased to $1.13 from $1.85 primarily due to additional income tax expense related to the Tax Act.

Segment results

- Mainframe Solutions revenue was generally consistent with the year-ago period. Excluding a favorable foreign exchange effect of $24 million for fiscal 2018, Mainframe Solutions revenue decreased primarily due to insufficient revenue from prior period new sales to offset the decline in revenue contribution from renewals. Mainframe Solutions operating margin increased primarily due to a decrease in corporate overhead costs and the Mainframe Solutions portion of the litigation settlement costs incurred during fiscal 2017.
- Enterprise Solutions revenue increased due to $194 million of revenue generated from our Automic and Veracode acquisitions during fiscal 2018, partially offset by a decrease in sales from our more mature Enterprise Solutions products. Enterprise Solutions operating margin decreased primarily due to costs associated with our Automic and Veracode acquisitions, which were mainly personnel-related.
- Services revenue increased due to $24 million of professional services revenue generated from our Automic and Veracode acquisitions during fiscal 2018, partially offset by a decline in non-acquisition-related professional services engagements. The decline in non-acquisition-related professional services engagements was a result of several factors, including our products being easier to install and manage and an increase in customers’ use of partners for services engagements. Operating margin for Services increased primarily due to an increase in professional services revenue from our Automic and Veracode acquisitions and a decrease in personnel-related costs resulting from severance actions during fiscal 2017.

Cash flow from continuing operations

- Net cash provided by operating activities from continuing operations increased primarily due to an increase in cash collections from billings of $276 million mainly from collections from our Automic and Veracode acquisitions and a decrease in income tax payments, net of $34 million, partially offset by an increase in vendor disbursements and payroll of $204 million mainly from disbursements from our Automic and Veracode acquisitions.

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, 2018	Year Ended March 31, 2017	Change	Percent Change
	(dollars in millions)			
Total revenue	$ 4,235	$ 4,036	$ 199	5 %
Income from continuing operations [1]	$ 476	$ 775	$ (299)	(39)%
Net cash provided by operating activities - continuing operations [2]	$ 1,198	$ 1,078	$ 120	11 %
Total bookings	$ 4,074	$ 4,763	$ (689)	(14)%
Subscription and maintenance bookings	$ 3,029	$ 3,918	$ (889)	(23)%
Weighted average subscription and maintenance license agreement duration in years	3.25	3.83	(0.58)	(15)%

(1) In fiscal 2018, income from continuing operations included a tax charge of $290 million from reasonable estimates of the impact of changes in tax law in the United States from the Tax Act.

(2) Net cash provided by operating activities - continuing operations for fiscal 2017 was adjusted to reflect the adoption of ASU 2016-09. Refer to Note 1, “Significant Accounting Policies” in the Notes to the Consolidated Financial Statements for further details.

	At March 31, 2018	At March 31, 2017	Change	Percent Change
	(dollars in millions)			
Cash and cash equivalents	$ 3,405	$ 2,771	$ 634	23 %
Total debt	$ 2,783	$ 2,791	$ (8)	— %
Total expected future cash collections from committed contracts [1]	$ 5,199	$ 5,304	$ (105)	(2)%
Total revenue backlog [1]	$ 7,515	$ 7,556	$ (41)	(1)%
Total current revenue backlog [1]	$ 3,372	$ 3,240	$ 132	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 (*i.e.*, upfront basis) and also includes our SaaS revenue, which is recognized as services are provided.

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

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 one 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 is 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 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 generally 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 one to five years, although in certain cases customer commitments can be for longer periods. These current period bookings are often renewals of prior contracts that also had various durations, usually from one 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 increase 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 2018, 2017 and 2016 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,			Dollar Change	Percent Change	Dollar Change	Percent Change
	2018	2017	2016	2018/2017	2018/2017	2017/2016	2017/2016
				(dollars in millions)			
Revenue:							
Subscription and maintenance	$ 3,326	$ 3,279	$ 3,317	$ 47	1 %	$ (38)	(1)%
Professional services	311	301	326	10	3	(25)	(8)
Software fees and other	598	456	382	142	31	74	19
Total revenue	$ 4,235	$ 4,036	$ 4,025	$ 199	5 %	$ 11	— %
Expenses:							
Costs of licensing and maintenance	$ 302	$ 273	$ 283	$ 29	11 %	$ (10)	(4)%
Cost of professional services	298	300	300	(2)	(1)	—	—
Amortization of capitalized software costs	271	243	256	28	12	(13)	(5)
Selling and marketing	1,061	1,028	1,006	33	3	22	2
General and administrative	406	375	367	31	8	8	2
Product development and enhancements	642	586	560	56	10	26	5
Depreciation and amortization of other intangible assets	107	77	106	30	39	(29)	(27)
Other expenses, net	29	19	12	10	53	7	58
Total expense before interest and income taxes	$ 3,116	$ 2,901	$ 2,890	$ 215	7 %	$ 11	— %
Income from continuing operations before interest and income taxes	$ 1,119	$ 1,135	$ 1,135	$ (16)	(1)%	$ —	— %
Interest expense, net	98	62	51	36	58	11	22
Income from continuing operations before income taxes	$ 1,021	$ 1,073	$ 1,084	$ (52)	(5)%	$ (11)	(1)%
Income tax expense	545	298	315	247	83	(17)	(5)
Income from continuing operations	$ 476	$ 775	$ 769	$ (299)	(39)%	$ 6	1 %

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,		
	2018	2017	2016
Revenue:			
Subscription and maintenance	79%	81%	82%
Professional services	7	8	8
Software fees and other	14	11	10
Total revenue	100%	100%	100%
Expenses:			
Costs of licensing and maintenance	7%	7%	7%
Cost of professional services	7	7	7
Amortization of capitalized software costs	6	6	6
Selling and marketing	25	25	25
General and administrative	10	9	9
Product development and enhancements	15	15	14
Depreciation and amortization of other intangible assets	3	2	3
Other expenses, net	1	—	—
Total expenses before interest and income taxes	74%	72%	72%
Income from continuing operations before interest and income taxes	26%	28%	28%
Interest expense, net	2	2	1
Income from continuing operations before income taxes	24%	27%	27%
Income tax expense	13	7	8
Income from continuing operations	11%	19%	19%

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

Revenue

Total Revenue

Total revenue for fiscal 2018 increased compared with fiscal 2017 primarily due to an increase in software fees and other revenue and, to a lesser extent, an increase in subscription and maintenance revenue as described below. During fiscal 2018, total revenue included $218 million of inorganic revenue from our Automic and Veracode acquisitions, primarily included in software fees and other revenue. In addition, there was a favorable foreign exchange effect of $51 million for fiscal 2018.

In general, we treat acquired technologies as organic in the quarter of their one-year anniversary date. Automic was acquired during the fourth quarter of fiscal 2017 and, as such, was treated as organic in the fourth quarter of fiscal 2018. Therefore, the first three quarters of fiscal 2018 included inorganic revenue from our Automic acquisition. Since Veracode was acquired on the last day of fiscal 2017, it will be treated as organic in the first quarter of fiscal 2019 and, as such, all four quarters of fiscal 2018 included inorganic revenue from our Veracode acquisition.

Total revenue for fiscal 2017 increased compared with fiscal 2016 primarily due to 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.

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 of inorganic revenue from our Rally and Xceedium acquisitions. During the fourth quarter of fiscal 2017, total revenue included $25 million of inorganic revenue from our Automic acquisition. As noted above, since Veracode was acquired on the last day of fiscal 2017, there was no revenue from Veracode reflected within our Statement of Operations for fiscal 2017.

Subscription and Maintenance

Subscription and maintenance revenue for fiscal 2018 increased compared with fiscal 2017 due to $53 million of subscription and maintenance revenue generated from our Automic acquisition during fiscal 2018. This increase was partially offset by a decline in Mainframe Solutions revenue and, to a lesser extent, a decrease in revenue from our more mature Enterprise solutions products (refer to "Performance of Segments" below). There was a favorable foreign exchange effect of $39 million for fiscal 2018.

Subscription and maintenance revenue for fiscal 2017 decreased compared with fiscal 2016 primarily due to a decrease in Mainframe Solutions revenue as well as Enterprise Solutions revenue recognized on a ratable basis. There was an unfavorable foreign exchange effect of $14 million for fiscal 2017.

Professional Services

Professional services revenue primarily includes revenue derived from product implementation, consulting, customer education and customer training services. Professional services revenue for fiscal 2018 increased compared with fiscal 2017 due to $24 million of professional services revenue generated from our Automic and Veracode acquisitions during fiscal 2018, partially offset by a decline in non-acquisition-related professional services engagements. The decline in non-acquisition-related professional services engagements was a result of several factors, including our products being easier to install and manage and an increase in customers' use of partners for services engagements. 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 2017 decreased compared with fiscal 2016 primarily due to a decline in non-acquisition-related professional services engagements as discussed above.

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 recognized on an upfront basis that were sold directly by our sales force and through transactions with distributors and volume partners, value-added resellers and exclusive representatives. 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 2018 increased compared with fiscal 2017 primarily due to $141 million of software fees and other revenue generated from our Automic and Veracode acquisitions during fiscal 2018 and, to a lesser extent, an increase in sales from our SaaS solutions.

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 Automic acquisition. Software fees and other revenue for fiscal 2017 included $36 million of revenue from acquired technologies.

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 2018, 2017 and 2016:

	Fiscal 2018 Compared With Fiscal 2017					Fiscal 2017 Compared With Fiscal 2016				
	(dollars in millions)									
	2018	% Of Total	2017	% Of Total	% Change	2017	% Of Total	2016	% Of Total	% Change
United States	$ 2,674	63%	$ 2,586	64%	3%	$ 2,586	64%	$ 2,585	64%	—%
International	1,561	37	1,450	36	8%	1,450	36	1,440	36	1%
Total	$ 4,235	100%	$ 4,036	100%	5%	$ 4,036	100%	$ 4,025	100%	—%

Revenue in the United States for fiscal 2018 increased compared with fiscal 2017 due to our Automic and Veracode acquisitions. Excluding a favorable foreign exchange effect of $51 million for fiscal 2018, international revenue increased compared with fiscal 2017 due to our Automic acquisition. Excluding the revenue generated from our Automic and Veracode acquisitions, revenue in the United States and international revenue would have decreased.

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.

Expenses

Operating Expenses

Operating expenses for fiscal 2018 increased compared with fiscal 2017 due to $284 million of additional operating expenses associated with our Automic and Veracode acquisitions, which were mainly personnel-related. This increase was partially offset by decreases in non-acquisition-related costs, which included personnel-related costs, legal settlements and commission costs.

Based on the timing of our Automic acquisition as discussed above, the first three quarters of fiscal 2018 included inorganic operating expenses from our Automic acquisition. Since Veracode was acquired on the last day of fiscal 2017, all four quarters of fiscal 2018 included inorganic operating expenses from our Veracode acquisition.

We currently expect the costs associated with a restructuring plan ("Fiscal 2019 Plan") to unfavorably affect operating expenses for fiscal 2019. Refer to Note 18, "Subsequent Events" in the Notes to the Consolidated Financial Statements for additional information.

Operating expenses for fiscal 2017 increased compared with fiscal 2016 primarily due to fiscal 2017 including additional operating expenses associated with our Rally, Xceedium and Automic acquisitions. This increase was partially offset by a favorable foreign exchange effect.

Based on the timing of our Rally, Xceedium and Automic acquisitions as discussed above, fiscal 2017 operating expenses included four quarters of expenses from our Rally and Xceedium acquisitions, while fiscal 2016 only included three quarters of expenses. During the first quarter of fiscal 2017, total operating expenses included $40 million of costs from our Rally and Xceedium acquisitions. In addition, Automic, which was acquired during the fourth quarter of fiscal 2017, contributed $35 million of costs in fiscal 2017, inclusive of one-time transaction costs. Since Veracode was acquired on the last day of fiscal 2017, there were no operating expenses for Veracode reflected within our Statement of Operations for fiscal 2017.

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 2018 increased compared with fiscal 2017 due to costs associated with our Automic and Veracode acquisitions during fiscal 2018, which were mainly support and personnel-related.

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).

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 2018 decreased compared with fiscal 2017 as a result of lower costs primarily due to a decrease in the number of non-acquisition-related professional services engagements and severance actions during fiscal 2017, partially offset by personnel-related costs associated with our Automic and Veracode acquisitions during fiscal 2018. Operating margin for professional services increased to 4% for fiscal 2018 compared with 0% for fiscal 2017 primarily due to an increase in professional services revenue from our Automic and Veracode acquisitions and a decrease in personnel-related costs resulting from severance actions during fiscal 2017.

Cost of professional services for fiscal 2017 was consistent compared with fiscal 2016 due to lower costs attributable to the decline in professional services engagements, offset by an increase in personnel-related costs resulting from 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 resulting from severance actions during fiscal 2017 and an increase in costs from our recent acquisitions.

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.

Amortization of capitalized software costs for fiscal 2018 increased compared with fiscal 2017 primarily due to an increase in amortization expense associated with purchased software products acquired from Automic and Veracode, partially offset by a decrease in amortization of our internally developed software products. With our adoption of the Agile development methodology in fiscal 2014, amortization expense of internally developed software products has decreased as we have not capitalized any internally developed software costs.

Amortization of capitalized software costs for fiscal 2017 decreased compared with fiscal 2016 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.

Selling and Marketing

Selling and marketing expenses include the costs relating to our sales force, partners, corporate and business marketing and customer training programs. Selling and marketing expenses for fiscal 2018 increased compared with fiscal 2017. During fiscal 2018, there were $111 million of costs associated with our Automic and Veracode acquisitions, which were mainly personnel-related, and an unfavorable foreign exchange effect of $14 million. These increases were partially offset by a decrease in non-acquisition-related costs of $92 million, which primarily included personnel-related and commission costs.

Selling and marketing expenses for fiscal 2017 increased compared with fiscal 2016 primarily due to $27 million of costs associated with our Rally, Xceedium and Automic acquisitions, which were mainly personnel-related, and, to a lesser extent, an increase in commission 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.

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. General and administrative expenses for fiscal 2018 increased compared with fiscal 2017 due to costs associated with our Automic and Veracode acquisitions during fiscal 2018, which were mainly personnel-related.

General and administrative expenses for fiscal 2017 increased compared with fiscal 2016 primarily due to an increase in non-acquisition related costs.

Product Development and Enhancements

For fiscal 2018 and fiscal 2017, product development and enhancements expense represented 15% and 15%, respectively, of total revenue. Product development and enhancements expense for fiscal 2018 increased compared with fiscal 2017. During fiscal 2018, there were $68 million of costs associated with our Automic and Veracode acquisitions, which were mainly personnel-related, and an unfavorable foreign exchange effect. These increases were partially offset by a decrease in non-acquisition-related costs of $21 million, which were mainly personnel-related.

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 expense for fiscal 2017 compared with fiscal 2016 was primarily attributable to an increase in personnel-related costs, which included the costs from our Rally, Xceedium and Automic acquisitions.

Depreciation and Amortization of Other Intangible Assets

Depreciation and amortization of other intangible assets consists of both depreciation of property and equipment and amortization of other intangible assets.

Depreciation and amortization of other intangible assets for fiscal 2018 increased compared with fiscal 2017 primarily due to an increase in amortization expense associated with other intangible assets acquired from Automic and Veracode.

Depreciation and amortization of other intangible assets for fiscal 2017 decreased compared with fiscal 2016 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 Rally, Xceedium and Automic acquisitions.

Other Expenses, Net

The summary of other expenses, net was as follows:

	Year Ended March 31,		
(in millions)	2018	2017	2016
Legal settlements	$ 1	$ 24	$ (13)
Losses from foreign exchange derivative contracts	13	4	6
Losses (gains) from foreign exchange rate fluctuations	14	(6)	20
Other miscellaneous items	1	(3)	(1)
Total	$ 29	$ 19	$ 12

For fiscal 2017, other expenses, net included a $32 million legal settlement expense related to a settlement agreement that was then being negotiated with the U.S. government pertaining to our General Services Administration ("GSA") schedule contract. The settlement agreement was finalized and the settlement amount was paid in full 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, 2018, our remaining net monetary assets in Argentina are not considered material to our overall financial statement presentation.

Interest Expense, Net

Interest expense, net for fiscal 2018 increased compared with fiscal 2017 primarily due to interest expense associated with our 3.600% Senior Notes due August 2022 and our 4.700% Senior Notes due March 2027, which were both issued during the fourth quarter of fiscal 2017.

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.

Refer to the "Liquidity and Capital Resources" section of this MD&A and Note 7, "Debt," in the Notes to the Consolidated Financial Statements for additional information.

Income Taxes

Income tax expense for fiscal 2018, 2017 and 2016 was $545 million, $298 million and $315 million, respectively. Our effective tax rate was 53.4%, 27.8% and 29.1% for fiscal 2018, 2017 and 2016, respectively.

The increase in the effective tax rate for fiscal 2018 compared with fiscal 2017 resulted from additional income tax expense related to the Tax Act. 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.

Income tax expense for fiscal 2018 includes $290 million resulting from reasonable estimates of the impact of changes in tax law in the United States from the Tax Act. The amounts recorded for the impacts of the Tax Act are provisional amounts of $194 million related to the taxation of unremitted earnings of our foreign subsidiaries, which is payable over eight years, and $96 million related to the remeasurement of deferred tax assets and liabilities for the change in income tax rates. The provisional amounts were reduced by $28 million from our prior estimate due to results from the full fiscal 2018 operations needed for calculations under the Tax Act and analysis of the historic unremitted earnings of our foreign subsidiaries. We will continue to refine the provisional amounts as we review and analyze the historic unremitted earnings of our foreign subsidiaries and take into consideration any additional regulatory guidance published by the U.S. tax authorities in respect of the Tax Act. We expect to finalize the tax expense as soon as practical, but not later than the third quarter of fiscal 2019.

Previously, we did not recognize a deferred tax liability related to undistributed foreign earnings of our subsidiaries because such earnings were considered to be indefinitely reinvested in our foreign operations. Under the Tax Act, all foreign earnings are subject to U.S. taxation and we have recorded a provisional estimate of $194 million for the deemed repatriation tax on these earnings. Except to the extent of the U.S. income tax recognized under the Tax Act, we have not recognized other income taxes (*e.g.*, state and foreign) and withholding taxes that would be incurred upon remittance of $2,274 million and $3,202 million at March 31, 2018 and 2017, respectively, of unremitted earnings of our foreign subsidiaries since we plan to permanently reinvest all such earnings outside the United States. Due to complexities in the laws of the foreign jurisdictions and the assumptions that would have to be made, it is not practicable to estimate 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 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 judicial procedures, as appropriate. As the result of decisions at the administrative courts, the total potential liability from the tax assessment at March 31, 2018 was 228 million Brazilian reais (which translated to $69 million at March 31, 2018), including interest and penalties accumulated through March 31, 2018 and further regulatory assessments associated with appealing to the judicial courts. 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 14, “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.

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

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 Enterprise Solutions segment includes products that are designed for mobile, cloud, and distributed computing environments and run on industry standard servers. 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 generally 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, severance and facility actions approved 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 2018, 2017 and 2016 is as follows:

Mainframe Solutions	Fiscal 2018	Fiscal 2017	Fiscal 2016
Revenue	$ 2,176	$ 2,182	$ 2,215
Expenses	785	851	854
Segment profit	$ 1,391	$ 1,331	$ 1,361
Segment operating margin	64%	61%	61%

Mainframe Solutions revenue for fiscal 2018 was generally consistent with fiscal 2017. Excluding a favorable foreign exchange effect of $24 million for fiscal 2018, Mainframe Solutions revenue decreased primarily due to insufficient revenue from prior period new sales to offset the decline in revenue contribution from renewals. Mainframe Solutions operating margin for fiscal 2018 increased compared with fiscal 2017 primarily due to a decrease in corporate overhead costs and the Mainframe Solutions portion of the litigation settlement costs incurred during fiscal 2017.

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.

Enterprise Solutions	Fiscal 2018	Fiscal 2017	Fiscal 2016
Revenue	$ 1,748	$ 1,553	$ 1,484
Expenses	1,597	1,378	1,337
Segment profit	$ 151	$ 175	$ 147
Segment operating margin	9%	11%	10%

Enterprise Solutions revenue for fiscal 2018 increased compared with fiscal 2017 due to $194 million of revenue generated from our Automic and Veracode acquisitions during fiscal 2018, partially offset by a decrease in sales from our more mature Enterprise Solutions products. Enterprise Solutions operating margin for fiscal 2018 decreased compared with fiscal 2017 primarily due to costs associated with our Automic and Veracode acquisitions, which were mainly personnel-related.

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 fiscal 2016 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	Fiscal 2018	Fiscal 2017	Fiscal 2016
Revenue	$ 311	$ 301	$ 326
Expenses	302	302	303
Segment profit (loss)	$ 9	$ (1)	$ 23
Segment operating margin	3%	— %	7%

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 2018 increased compared with fiscal 2017 due to $24 million of professional services revenue generated from our Automic and Veracode acquisitions during fiscal 2018, partially offset by a decline in non-acquisition-related professional services engagements. The decline in non-acquisition-related professional services engagements was a result of several factors, including our products being easier to install and manage and an increase in customers’ use of partners for services engagements. 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 increased to 3% for fiscal 2018 compared with 0% for fiscal 2017 primarily due to an increase in professional services revenue from our Automic and Veracode acquisitions and a decrease in personnel-related costs resulting from severance actions during fiscal 2017.

Services revenue for fiscal 2017 decreased compared with fiscal 2016 primarily due to a decline in professional services engagements from prior periods as discussed above. 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 resulting from severance actions during fiscal 2017.

Refer to Note 16, “Segment and Geographic Information,” in the Notes to the Consolidated Financial Statements for additional information.

Bookings - Fiscal 2018 Compared with Fiscal 2017

Total Bookings: For fiscal 2018 and fiscal 2017, total bookings were $4,074 million and $4,763 million, respectively. This decrease in total bookings was due to a decline in renewal bookings, which included a large system integrator transaction that occurred in the first quarter of fiscal 2017 with an incremental contract value in excess of $475 million.

Based on the timing of our Automic acquisition as discussed above, the first three quarters of fiscal 2018 included inorganic bookings from our Automic acquisition. Since Veracode was acquired on the last day of fiscal 2017, all four quarters of fiscal 2018 included inorganic bookings from our Veracode acquisition.

Subscription and Maintenance Bookings: For fiscal 2018 and fiscal 2017, subscription and maintenance bookings were $3,029 million and $3,918 million, respectively. This decrease in subscription and maintenance bookings was primarily attributable to a decline in renewal bookings, which included the aforementioned large system integrator transaction that occurred in the first quarter of fiscal 2017.

Renewal Bookings: For fiscal 2018, renewal bookings decreased by a percentage in the low-20s compared with fiscal 2017 primarily due to the aforementioned large system integrator transaction that occurred in the first quarter of fiscal 2017 and the timing of our renewal portfolio. For the fourth quarter of fiscal 2018, our renewal yield percentage was above 90%. The average of the renewal yield percentage for the four quarters of fiscal 2018 was above 90%.

- *License Agreements over $10 million:* During fiscal 2018, we executed a total of 49 license agreements with incremental contract values in excess of $10 million each, for an aggregate contract value of $1,518 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. The decrease during fiscal 2018 compared with fiscal 2017 was primarily attributable to a decline in renewal bookings, which included the aforementioned large system integrator transaction. In addition, as a result of the timing of our renewal portfolio, there was an overall lower number of license agreements with incremental contract values in excess of $10 million each.

- *Annualized Subscription and Maintenance Bookings and Weighted Average Subscription and Maintenance License Agreement Duration in Years:* Annualized subscription and maintenance bookings decreased from $1,023 million in fiscal 2017 to $932 million in fiscal 2018. The weighted average subscription and maintenance license agreement duration in years decreased from 3.83 in fiscal 2017 to 3.25 in fiscal 2018. These decreases were primarily due to the aforementioned large system integrator transaction. 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.

Total New Product Sales: Within total bookings, total new product sales for fiscal 2018 were generally consistent compared with fiscal 2017. Excluding a favorable foreign exchange effect, total new product sales for fiscal 2018 decreased by a percentage in the low single digits compared with fiscal 2017.

- *Mainframe Solutions New Product Sales:* For fiscal 2018, Mainframe Solutions new product sales (which includes sales of mainframe products and mainframe capacity) decreased by a percentage in the low single digits compared with fiscal 2017 primarily due to the aforementioned large system integrator transaction that occurred in the first quarter of fiscal 2017. Excluding the aforementioned large system integrator transaction, Mainframe Solutions new product sales increased by a percentage in the low teens primarily due to higher Mainframe Solutions new product sales attached to renewals compared with the year-ago period. 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 2018, Enterprise Solutions new product sales increased by a percentage in the low single digits compared with fiscal 2017. Excluding the aforementioned large system integrator transaction, Enterprise Solutions new product sales increased by a percentage in the mid-single digits due to our Automic and Veracode acquisitions. Excluding the aforementioned large system integrator transaction and Enterprise Solutions new product sales from our Automic and Veracode acquisitions, Enterprise Solutions new product sales decreased by a percentage in the low teens primarily due to a lower level of renewal bookings, which was attributable to the timing of our renewal portfolio. Typically, renewals provide an increased opportunity to generate new product sales.

Total Bookings by Geography: Total bookings for fiscal 2018 decreased in all regions except for the Latin America region compared with fiscal 2017 primarily due to a decrease in our renewal portfolio. The decrease in the United States was primarily due to the aforementioned large system integrator transaction that occurred in the first quarter of fiscal 2017. The increase in total bookings in the Latin America region was primarily due to an increase in new product sales and renewals.

New Product Sales by Geography: Total new product sales for fiscal 2018 decreased in the United States compared with fiscal 2017 primarily due to a decrease in our renewal portfolio, which included the aforementioned large system integrator transaction that occurred in the first quarter of fiscal 2017, partially offset by an increase from our Automic and Veracode acquisitions. Total new product sales for fiscal 2018 increased in all other regions compared with fiscal 2017. Total new product sales in the Europe, Middle East and Africa region increased primarily due to our Automic acquisition.

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 Enterprise Solutions renewals was primarily attributable to renewals from our Rally, Xceedium and Automic acquisitions. For the fourth quarter of fiscal 2017, our renewal yield percentage 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.

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.

- *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.

Selected Quarterly Information

	Fiscal 2018 Quarter Ended				
	June 30	September 30	December 31	March 31	Total
	(dollars in millions, except per share amounts)				
Revenue	$ 1,025	$ 1,034	$ 1,093	$ 1,083	$ 4,235
Percentage of annual revenue	24%	24%	26%	26%	100%
Costs of licensing and maintenance	$ 71	$ 73	$ 79	$ 79	$ 302
Cost of professional services	$ 73	$ 74	$ 76	$ 75	$ 298
Amortization of capitalized software costs	$ 70	$ 67	$ 68	$ 66	$ 271
Income (loss) from continuing operations	$ 178	$ 184	$ (93)	$ 207	$ 476
Basic income (loss) per common share from continuing operations	$ 0.42	$ 0.44	$ (0.23)	$ 0.50	$ 1.14
Diluted income (loss) per common share from continuing operations	$ 0.42	$ 0.44	$ (0.23)	$ 0.49	$ 1.13

	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

Liquidity and Capital Resources

Our cash and cash equivalent balances are held in numerous locations throughout the world, with 53% held in our subsidiaries outside the United States at March 31, 2018. Cash and cash equivalents totaled $3,405 million at March 31, 2018, representing an increase of $634 million from the March 31, 2017 balance of $2,771 million. During fiscal 2018, there was a $182 million favorable translation effect from foreign exchange rates on cash held outside the United States in currencies other than the U.S. dollar.

On December 22, 2017, the Tax Act was enacted into law. This new law includes significant changes to the U.S. corporate income tax system, including a permanent reduction in the corporate income tax rate, limitations on the deductibility of executive compensation and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. This new law includes a provision that imposes a transition tax on foreign earnings whether or not such earnings are repatriated to the U.S. and resulted in our recognition of income tax expense of $194 million for fiscal 2018. Refer to Note 14, “Income Taxes” in the Notes to the Consolidated Financial Statements for additional information.

We continue to expect 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 for capital expenditures, for at least the next 12 months and for the foreseeable future thereafter. In addition, we continue to expect 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.

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 2018, gross receipts related to single installments for the entire contract value, or a substantial portion of the contract value, were $486 million compared with $489 million in fiscal 2017.

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, 2018	March 31, 2017
	(in millions)	
Billings backlog:		
Amounts to be billed — current	$ 1,994	$ 1,941
Amounts to be billed — noncurrent	2,412	2,599
Total billings backlog	$ 4,406	$ 4,540
Revenue backlog:		
Revenue to be recognized within the next 12 months — current	$ 3,372	$ 3,240
Revenue to be recognized beyond the next 12 months — noncurrent	4,143	4,316
Total revenue backlog	$ 7,515	$ 7,556
Deferred revenue (billed or collected)	$ 3,109	$ 3,016
Total billings backlog	4,406	4,540
Total revenue backlog	$ 7,515	$ 7,556

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

The 3% decrease in total billings backlog at March 31, 2018 compared with March 31, 2017 was primarily due to a lower level of bookings during fiscal 2018. Excluding a favorable foreign exchange effect, total billings backlog decreased 5% at March 31, 2018 compared with March 31, 2017.

The 1% decrease in total revenue backlog at March 31, 2018 compared with March 31, 2017 was primarily due to a lower level of bookings during fiscal 2018. Excluding a favorable foreign exchange effect, total revenue backlog decreased 3% at March 31, 2018 compared with March 31, 2017.

Current revenue backlog, which is our revenue to be recognized within the next 12 months, increased 4% at March 31, 2018 compared with March 31, 2017 primarily due to an increase from our Automic and Veracode acquisitions. Excluding a favorable foreign exchange effect, current revenue backlog increased 1% at March 31, 2018 compared with March 31, 2017. Current revenue backlog declines as contracts move closer to their renewal dates. We expect revenue backlog will fluctuate throughout the year.

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.

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, 2018	March 31, 2017
	(in millions)	
Expected future cash collections:		
Total billings backlog	$ 4,406	$ 4,540
Trade accounts receivable, net	793	764
Total expected future cash collections	$ 5,199	$ 5,304

The decrease in total expected future cash collections at March 31, 2018 compared with March 31, 2017 was primarily driven by a decrease in billings backlog as described above.

Unbilled amounts relating to subscription and maintenance licenses are mostly collectible over a period of one-to-five years and at March 31, 2018, on a cumulative basis, 45%, 74%, 89%, 96% and 100% come due within fiscal 2019 through 2023, respectively.

Net Cash Provided by Operating Activities

	Year Ended March 31,			$ Change	
	2018	2017	2016	2018 / 2017	2017 / 2016
			(in millions)		
Cash collections from billings [1]	$ 4,529	$ 4,253	$ 4,229	$ 276	$ 24
Vendor disbursements and payroll [1]	(2,892)	(2,688)	(2,745)	(204)	57
Income tax payments, net	(350)	(384)	(365)	34	(19)
Other disbursements, net [2]	(89)	(103)	(53)	14	(50)
Net cash provided by operating activities from continuing operations [3]	$ 1,198	$ 1,078	$ 1,066	$ 120	$ 12

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

(2) For fiscal 2018, amount includes payments associated with interest, prior period restructuring plans and miscellaneous receipts and disbursements. For fiscal 2017, amount includes $49 million of payments associated with the litigation settlement agreement with the U.S. government pertaining to our GSA schedule contract, and payments associated with interest, prior period restructuring plans and miscellaneous receipts and disbursements. For fiscal 2016, amount includes payments associated with interest, prior period restructuring plans and miscellaneous receipts and disbursements.

(3) Net cash provided by operating activities from continuing operations for fiscal 2017 and 2016 was adjusted to reflect the adoption of ASU 2016-09. Refer to Note 1, "Significant Accounting Policies" in the Notes to the Consolidated Financial Statements for further details.

Fiscal 2018 Compared with Fiscal 2017

Operating Activities

Net cash provided by operating activities from continuing operations for fiscal 2018 was $1,198 million, representing an increase of $120 million compared with fiscal 2017. The increase in net cash provided by operating activities was primarily due to an increase in cash collections from billings of $276 million mainly from collections from our Automic and Veracode acquisitions and a decrease in income tax payments, net of $34 million, partially offset by an increase in vendor disbursements and payroll of $204 million mainly from disbursements from our Automic and Veracode acquisitions.

For fiscal 2019, we currently expect payments associated with the Fiscal 2019 Plan to unfavorably affect net cash provided by operating activities from continuing operations. In addition, we currently expect an increase in incremental income tax payments resulting from the Topic 606 adoption and enactment of the Tax Act. Refer to Note 18, “Subsequent Events,” and Note 1, “Significant Accounting Policies,” in the Notes to the Consolidated Financial Statements for additional information.

Investing Activities

Net cash used in investing activities from continuing operations for fiscal 2018 was $65 million compared with $1,337 million for fiscal 2017. The decrease in net cash used in investing activities was primarily due to a decrease in cash paid for acquisitions of businesses and purchased software of $1,273 million, mainly from the acquisitions of Automic and Veracode, compared with the year-ago period.

Financing Activities

Net cash used in financing activities from continuing operations for fiscal 2018 was $680 million compared with net cash provided by financing activities from continuing operations of $321 million for fiscal 2017. The change in net financing activities was primarily due to a decrease in debt borrowings of $850 million associated with our 3.600% Senior Notes due August 2022 and our 4.700% Senior Notes due March 2027, which were both issued during the fourth quarter of fiscal 2017. In addition, there was an increase in net debt repayments from our notional pooling arrangement of $67 million, an increase in common stock repurchases of $63 million, and an increase in debt repayments of $13 million compared with fiscal 2017.

Refer to the “Debt Arrangements” table below for additional information about our debt balances at March 31, 2018.

Fiscal 2017 Compared with Fiscal 2016

Operating Activities

Net cash provided by operating activities from continuing operations for fiscal 2017 was $1,078 million, representing an increase of $12 million compared with fiscal 2016. The increase in net cash provided by operating activities was due to a decrease in vendor disbursements and payroll of $57 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 associated with the litigation settlement agreement with the U.S. government pertaining to our GSA schedule contract, 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 was primarily due to an increase in net cash paid for acquisitions and purchased software of $644 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, compared with the year-ago period.

Financing Activities

Net cash provided by financing activities from continuing operations for fiscal 2017 was $321 million compared with net cash used in financing activities from continuing operations of $475 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.

Debt Arrangements

Our debt arrangements consisted of the following:

	At March 31, 2018	At March 31, 2017
	(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	500
4.500% Senior Notes due August 2023	250	250
4.700% Senior Notes due March 2027	350	350
Term Loan due April 2023	285	300
Other indebtedness, primarily capital leases	10	8
Unamortized debt issuance costs	(11)	(14)
Unamortized discount for Senior Notes	(1)	(3)
Total debt outstanding	$ 2,783	$ 2,791
Less the current portion	(269)	(18)
Total long-term debt portion	$ 2,514	$ 2,773

At March 31, 2018, 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.

Significant changes to our debt obligations during fiscal 2018 consisted of the following:

Term Loan: In April 2018, we amended our term loan agreement with Bank of America, N.A. to extend the maturity date from April 2022 to April 2023.

Revolving Credit Facility: In June 2017, we amended our revolving credit facility to extend the termination date from June 2019 to June 2022. 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, 2018 and 2017, there were no outstanding borrowings under our revolving credit facility.

Other Indebtedness: We had $114 million of unsecured and uncommitted multi-currency lines of credit at both March 31, 2018 and 2017 available to meet short-term working capital needs for our subsidiaries. We use guarantees and letters of credit issued by financial institutions to guarantee performance on certain contracts and other items. At March 31, 2018 and 2017, $60 million and $51 million, respectively, of these lines of credit were pledged in support of bank guarantees and other local credit lines. At March 31, 2018 and 2017, none of these arrangements were drawn down by third parties.

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 7, "Debt," in the Notes to the Consolidated Financial Statements.

Stock Repurchases

In November 2015, the 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 2018, we repurchased 5.0 million shares of our common stock for $163 million. At March 31, 2018, we remained authorized to purchase $487 million of our common stock under our current stock repurchase program.

During fiscal 2017, we repurchased 3.1 million shares of our common stock for $100 million.

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 the 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.

Dividends

We have paid cash dividends each year since July 1990. During fiscal 2018, 2017 and 2016, we paid annual cash dividends of $1.02, $1.02 and $1.00 per share, respectively. During fiscal 2018, 2017 and 2016, we paid quarterly cash dividends of $0.255, $0.255 and $0.25 per share, respectively.

Effect of Foreign Exchange Rate Changes

There was a $182 million favorable translation effect on our cash balances in fiscal 2018 predominantly due to the weakening of the U.S. dollar against the euro (16%), the British pound sterling (12%), the Israeli shekel (3%) and the Danish krone (15%).

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%).

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, 2018 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, 2018.

	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)	$ 3,244	$ 381	$ 1,357	$ 835	$ 671
Operating lease obligations (1)	458	97	159	92	110
Purchase obligations	110	75	27	4	4
Other obligations (2)	78	24	25	16	13
Total	$ 3,890	$ 577	$ 1,568	$ 947	$ 798

(1) The contractual obligations for noncurrent operating leases exclude sublease income totaling $33 million expected to be received in the following periods: $11 million (less than 1 year); $18 million (1–3 years); and $4 million (3–5 years).

(2) $150 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 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 (*i.e.*, 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."

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers*, with amendments in 2015, 2016 and 2017, 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 adopted in our first quarter of fiscal year 2019 with the cumulative effect recognized as of the date of initial application (modified retrospective method).

Refer to Note 1, “Significant Accounting Policies” in the Notes to the Consolidated Financial Statements for additional information on our revenue recognition policy and Topic 606.

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 loss 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 from 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 the period in which the change in judgment occurs. We record interest and penalties related to uncertain tax positions in income tax expense.

The Tax Act introduced significant changes to U.S. income tax law, including a mandatory one-time transition tax on accumulated earnings of foreign subsidiaries and a reduction of the U.S. statutory corporate income tax rate from 35% to 21%, effective January 1, 2018. As a result, we have computed our income tax expense for fiscal 2018 using a blended federal tax rate of 31.55%. The 21% federal tax rate will apply to fiscal 2019 and each fiscal year thereafter. During December 2017, the SEC staff issued Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act, which allows recognition of provisional tax amounts during a measurement period not to extend beyond one year of the enactment date. Due to the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, we have made reasonable estimates for these effects and recorded provisional amounts, including the estimated transition tax and the remeasurement of U.S. deferred tax assets and liabilities, in our consolidated financial statements for fiscal 2018. We will continue to refine the provisional amounts as we review and analyze the historic unremitted earnings of our foreign subsidiaries and take into consideration any additional regulatory guidance published by the U.S. tax authorities in respect of the Tax Act. We expect to finalize the tax expense as soon as practical, but not later than the third quarter of fiscal 2019. Refer to Note 14, “Income Taxes,” in the Notes to the Consolidated Financial Statements for additional information.

Beginning with fiscal 2019, the global intangible low-taxed income (“GILTI”) provisions of the Tax Act requires us to subject to U.S. income tax foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets. GAAP allows us to choose between an accounting policy that treats the U.S. tax under the GILTI provisions as either a current expense as incurred or as a component of our measurement of deferred taxes. Due to the timing of the enactment and the complexity involved in applying the GILTI provisions, we do not currently have sufficient information available to develop a reasonable estimate or establish an accounting policy for GILTI. Therefore, we have not recorded any tax impacts associated with GILTI on our consolidated financial statements for fiscal 2018. We will continue to analyze the GILTI provisions in fiscal 2019 as information becomes available to finalize a decision on an accounting policy.

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. Under the market approach, we calculate the estimated fair value of a reporting unit based on market multiples of revenue or earnings of comparable companies. 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 estimated fair value of the reporting units.

Based on our impairment analysis performed for fiscal 2018, 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 recoverability of the carrying amount of these assets by evaluating future cash flows to be derived from the use of these assets in relation to their unamortized costs. 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,” in the Notes to the Consolidated Financial Statements 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 13, “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 9, “Fair Value Measurements,” in the Notes to the Consolidated Financial Statements 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 8, “Derivatives,” in the Notes to the Consolidated Financial Statements 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. Due to the uncertainty of these matters, 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, and 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 10, “Commitments and Contingencies,” in the Notes to the Consolidated Financial Statements for additional information.

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, 2018, our outstanding debt was $2,783 million. Refer to Note 7, "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, 2018 would increase interest expense by approximately $3 million per year.

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. The 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 2018 and 2017, 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 8, "Derivatives" in the Notes to the Consolidated Financial Statements 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, 2018 would increase or decrease by approximately $180 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, 2018 based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 61 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.

The Company is adopting the new revenue recognition guidance under Accounting Standards Codification Topic 606 ("Topic 606") in the first quarter of fiscal year 2019. The adoption of this guidance requires the implementation of a new revenue recognition software system in addition to new accounting processes, policies and procedures. The Company is also required to implement new internal controls for revenue recognition, including the adjustments to retained earnings required under the modified retrospective method of adoption, and the related disclosures required under the new guidance. As a result, during the first quarter of fiscal year 2019, the changes in the Company's internal controls and processes to meet the requirements of Topic 606 are expected to have a material effect on its internal control over financial reporting. These controls will be newly implemented with limited history of operating effectiveness.

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 2018 Annual Meeting of Stockholders is incorporated herein by reference. Information regarding executive officers of the Company is incorporated in this Item 10 by reference to Part I of this Form 10-K under the heading "Executive Officers of the Registrant."

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 2018 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 2018 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 2018" and "Director Independence" in the definitive proxy statement to be filed with the SEC relating to our 2018 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 2018 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.

		Incorporated by Reference			
Exhibit Number	Exhibit Description	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*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-K	10.57	05/11/12	
10.25*	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	Incorporated by Reference Exhibit	Incorporated by Reference Filing Date	Filed or Furnished Herewith
10.26*	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	
10.27*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options.	10-K	10.60	05/11/12	
10.28*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options (Canadian employees).	10-K	10.61	05/11/12	
10.29*	CA, Inc. 2012 Compensation Plan for Non-Employee Directors.	DEF 14A	Exhibit B	06/11/12	
10.30*	CA, Inc. 2012 Compensation Plan for Non-Employee Directors (As Amended).	DEF 14A	Exhibit A	06/22/17	
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	10.62	05/09/13	
10.35	Amended and Restated Credit Agreement dated June 7, 2013.	8-K	10.1	06/10/13	
10.36	Amendment No. 1 dated April 13, 2015 to Amended and Restated Credit Agreement dated June 7, 2013.	8-K	10.1	04/14/15	
10.37	Amended and Restated Credit Agreement dated June 27, 2017.	8-K	10.1	06/28/17	
10.38*	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	
10.39*	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	
10.40*	Letter dated January 21, 2014 from the Company to Adam Elster regarding terms of employment.	8-K	10.1	01/21/14	
10.41*	CA, Inc. Executive Severance Policy effective May 13, 2014.	10-K	10.63	05/19/14	
10.42*	Summary description of Director compensation.	10-K	10.64	05/19/14	
10.43*	Letter dated June 14, 2013 from the Company to Lauren P. Flaherty regarding terms of employment.	10-Q	10.2	07/24/14	
10.44*	Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Executive Officer Restricted Stock Awards.	10-Q	10.4	07/24/14	
10.45*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Units.	10-Q	10.5	07/24/14	
10.46*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Restricted Stock Awards.	10-Q	10.6	07/24/14	
10.47*	Amended Form of Award Agreement under the CA, Inc. 2011 Incentive Plan - Non-Qualified Stock Options.	10-Q	10.7	07/24/14	

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Exhibit	Filing Date	Filed or Furnished Herewith
10.48*	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	
10.49*	Schedules A, B and C (effective May 9, 2018) to CA, Inc. Change in Control Severance Policy.				X
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	Amended and Restated Term Loan Agreement dated April 20, 2018.				X
10.53	Share Repurchase Agreement, dated November 17, 2015 by and between CA, Inc. and Careal Holding AG.	8-K	10.1	11/18/15	
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 Executive Restricted Stock Agreement under the CA, Inc. 2011 Incentive Plan.				X
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.INS	XBRL Instance Document.				X
101.SCH	XBRL Taxonomy Extension Schema Document.				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.				X

‡ 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.

Item 16. Form 10-K Summary.

None.

Signatures

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

CA, INC.

By: /s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer

Dated: May 9, 2018

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 9, 2018

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
* Jean M. Hobby	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

*By: /s/ Ava M. Hahn
Ava M. Hahn
Attorney-in-fact

Dated: May 9, 2018

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, 2018

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

To the stockholders and board of directors
CA, Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of CA, Inc. and subsidiaries (the "Company") as of March 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended March 31, 2018, and the related notes and financial statement schedule (collectively, the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of March 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of March 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended March 31, 2018, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of March 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinion

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting under Item 9A(b). Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

We have served as the Company's auditor since 1999.

New York, New York

May 9, 2018

CA, Inc. and Subsidiaries
Consolidated Balance Sheets

(in millions, except share amounts)	March 31, 2018		March 31, 2017	
Assets				
Current assets:				
Cash and cash equivalents	$	3,405	$	2,771
Trade accounts receivable, net of allowance for doubtful accounts of $10 and $11, respectively		793		764
Other current assets		210		198
Total current assets	$	4,408	$	3,733
Property and equipment, net of accumulated depreciation of $865 and $841, respectively		237		237
Goodwill		6,804		6,857
Capitalized software and other intangible assets, net		1,111		1,307
Deferred income taxes		346		327
Other noncurrent assets, net		154		149
Total assets	$	13,060	$	12,610
Liabilities and stockholders' equity				
Current liabilities:				
Current portion of long-term debt	$	269	$	18
Accounts payable		85		91
Accrued salaries, wages and commissions		242		256
Accrued expenses and other current liabilities		340		326
Deferred revenue (billed or collected)		2,289		2,222
Taxes payable, other than income taxes payable		55		63
Federal, state and foreign income taxes payable		41		30
Total current liabilities	$	3,321	$	3,006
Long-term debt, net of current portion		2,514		2,773
Federal, state and foreign income taxes payable		311		131
Deferred income taxes		111		119
Deferred revenue (billed or collected)		820		794
Other noncurrent liabilities		88		98
Total liabilities	$	7,165	$	6,921
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; 412,056,923 and 413,409,346 shares outstanding, respectively		59		59
Additional paid-in capital		3,744		3,702
Retained earnings		6,971		6,923
Accumulated other comprehensive loss		(290)		(483)
Treasury stock, at cost, 177,638,158 and 176,285,735 shares, respectively		(4,589)		(4,512)
Total stockholders' equity	$	5,895	$	5,689
Total liabilities and stockholders' equity	$	13,060	$	12,610

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)	2018	2017	2016
Revenue:			
Subscription and maintenance	$ 3,326	$ 3,279	$ 3,317
Professional services	311	301	326
Software fees and other	598	456	382
Total revenue	$ 4,235	$ 4,036	$ 4,025
Expenses:			
Costs of licensing and maintenance	$ 302	$ 273	$ 283
Cost of professional services	298	300	300
Amortization of capitalized software costs	271	243	256
Selling and marketing	1,061	1,028	1,006
General and administrative	406	375	367
Product development and enhancements	642	586	560
Depreciation and amortization of other intangible assets	107	77	106
Other expenses, net	29	19	12
Total expenses before interest and income taxes	$ 3,116	$ 2,901	$ 2,890
Income from continuing operations before interest and income taxes	$ 1,119	$ 1,135	$ 1,135
Interest expense, net	98	62	51
Income from continuing operations before income taxes	$ 1,021	$ 1,073	$ 1,084
Income tax expense	545	298	315
Income from continuing operations	$ 476	$ 775	$ 769
Income from discontinued operations, net of income taxes	—	—	14
Net income	$ 476	$ 775	$ 783
Basic income per common share:			
Income from continuing operations	$ 1.14	$ 1.85	$ 1.79
Income from discontinued operations	—	—	0.03
Net income	$ 1.14	$ 1.85	$ 1.82
Basic weighted average shares used in computation	414	414	426
Diluted income per common share:			
Income from continuing operations	$ 1.13	$ 1.85	$ 1.78
Income from discontinued operations	—	—	0.03
Net income	$ 1.13	$ 1.85	$ 1.81
Diluted weighted average shares used in computation	415	415	427

See accompanying Notes to the Consolidated Financial Statements

CA, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income

	Year Ended March 31,		
(in millions)	2018	2017	2016
Net income	$ 476	$ 775	$ 783
Other comprehensive income (loss):			
Foreign currency translation adjustments	193	(67)	2
Total other comprehensive income (loss)	$ 193	$ (67)	$ 2
Comprehensive income	$ 669	$ 708	$ 785

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, 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
Net income			476			476
Other comprehensive income				193		193
Comprehensive income						669
Share-based compensation		120				120
Dividends declared			(428)			(428)
Release of restricted stock, exercise of common stock options, ESPP and other items		(78)			86	8
Treasury stock purchased					(163)	(163)
Balance at March 31, 2018	$ 59	$ 3,744	$ 6,971	$ (290)	$ (4,589)	$ 5,895

See accompanying Notes to the Consolidated Financial Statements

CA, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

	Year Ended March 31,		
(in millions)	2018	2017	2016
Operating activities from continuing operations:			
Net income	$ 476	$ 775	$ 783
Income from discontinued operations	—	—	(14)
Income from continuing operations	$ 476	$ 775	$ 769
Adjustments to reconcile income from continuing operations to net cash provided by operating activities:			
Depreciation and amortization	378	320	362
Deferred income taxes	39	(21)	(115)
Provision for bad debts	2	4	—
Share-based compensation expense	120	108	97
Other non-cash items	4	5	—
Foreign currency transaction losses (gains)	3	(4)	4
Changes in other operating assets and liabilities, net of effect of acquisitions:			
(Increase) decrease in trade accounts receivable	(10)	(85)	54
Increase (decrease) in deferred revenue	11	24	(105)
Increase (decrease) in taxes payable, net	126	(106)	32
Increase (decrease) in accounts payable, accrued expenses and other	15	(25)	(62)
(Decrease) increase in accrued salaries, wages and commissions	(21)	32	(18)
Changes in other operating assets and liabilities, net	55	51	48
Net cash provided by operating activities - continuing operations	$ 1,198	$ 1,078	$ 1,066
Investing activities from continuing operations:			
Acquisitions of businesses, net of cash acquired, and purchased software	$ (15)	$ (1,288)	$ (644)
Purchases of property and equipment	(48)	(47)	(48)
Proceeds from sale of short-term investments	—	—	48
Other investing activities	(2)	(2)	(1)
Net cash used in investing activities - continuing operations	$ (65)	$ (1,337)	$ (645)
Financing activities from continuing operations:			
Dividends paid	$ (428)	$ (428)	$ (429)
Purchases of common stock	(163)	(100)	(707)
Notional pooling borrowings	2,310	2,374	3,899
Notional pooling repayments	(2,354)	(2,351)	(3,877)
Debt borrowings	—	850	1,100
Debt repayments	(19)	(6)	(409)
Debt issuance costs	(3)	(5)	(4)
Exercise of common stock options	16	22	4
Payments related to tax withholding for share-based compensation	(36)	(35)	(28)
Other financing activities	(3)	—	(24)
Net cash (used in) provided by financing activities - continuing operations	$ (680)	$ 321	$ (475)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	182	(103)	24
Net change in cash, cash equivalents and restricted cash - continuing operations	$ 635	$ (41)	$ (30)
Cash used in operating activities - discontinued operations	$ —	$ —	$ (12)
Cash provided by investing activities - discontinued operations	—	—	50
Net effect of discontinued operations on cash, cash equivalents and restricted cash	$ —	$ —	$ 38
Increase (decrease) in cash, cash equivalents and restricted cash	$ 635	$ (41)	$ 8
Cash, cash equivalents and restricted cash at beginning of period	2,772	2,813	2,805
Cash, cash equivalents and restricted cash at end of period	$ 3,407	$ 2,772	$ 2,813

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 ("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, (viii) the fair value of the Company's reporting units, and (ix) U.S. income taxes associated with the Tax Cuts and Jobs Act enacted on December 22, 2017 (the "Tax Act").

(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 either the equity method or cost 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. 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). The results of operations associated with this business have been presented as discontinued operations in the accompanying Consolidated Statements of Operations and Consolidated Statements of Cash Flows for fiscal year 2016. 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 losses (gains) were approximately $27 million, $(2) million and $26 million in fiscal years 2018, 2017 and 2016, 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.

(g) Revenue Recognition: The Company derives revenues primarily from the licensing of subscription (*i.e.*, 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 13, "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 12, "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.

Trade accounts receivable represents amounts due from the Company's customers and includes revenue recognized in advance of customer billings, but does not include unbilled contractual commitments executed under license agreements. Amounts included in accounts receivable expected to be collected from customers have limited exposure to concentration of credit risk due to the diverse customer base and geographic areas covered by operations.

(l) Cash, Cash Equivalents and Restricted Cash: 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 53% and 60% of cash and cash equivalents were maintained outside the United States at March 31, 2018 and 2017, respectively.

Total interest income, which primarily relates to the Company's cash and cash equivalent balances and investments, for fiscal years 2018, 2017 and 2016 was approximately $30 million, $28 million and $30 million, respectively, and is included in "Interest expense, net" in the Consolidated Statements of Operations.

At March 31, 2018 and 2017, the total amount of restricted cash included in "Other noncurrent assets, net" in the Company's Consolidated Balance Sheets was approximately $2 million and $1 million, respectively. Restricted cash was included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown in the Company's Consolidated Statements of Cash Flows.

(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 9, "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 2018, 2017 and 2016.

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 are 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 1 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. The facts and circumstances considered include an assessment of the recoverability of the carrying amount of purchased software products by evaluating future cash flows to be derived from the use of the products in relation to their unamortized costs.

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 evaluated for impairment annually and under certain circumstances. The Company evaluates 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 evaluates the estimated fair value of its reporting units using both the income and market approaches. 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. Under the market approach, the Company calculates the estimated fair value of a reporting unit based on market multiples of revenue or earnings of comparable companies. 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 estimated fair value of the reporting units.

Refer to Note 5, “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, along with net 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 on 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.

The Tax Act introduced significant changes to U.S. income tax law, including a mandatory one-time transition tax on accumulated earnings of foreign subsidiaries and a reduction of the U.S. statutory corporate income tax rate from 35% to 21%, effective January 1, 2018. As a result, the Company has computed its income tax expense for fiscal year 2018 using a blended federal tax rate of 31.55%. The 21% federal tax rate will apply to the Company's fiscal year 2019 and each fiscal year thereafter. During December 2017, the SEC staff issued Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act, which allows recognition of provisional tax amounts during a measurement period not to extend beyond one year of the enactment date. Due to the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, the Company has made reasonable estimates for these effects and recorded provisional amounts, including the estimated transition tax and the remeasurement of U.S. deferred tax assets and liabilities, in its consolidated financial statements for fiscal year 2018. The Company will continue to refine the provisional amounts as it reviews and analyzes the historic unremitted earnings of its foreign subsidiaries, as well as the attendant computations that impact the measurement of the taxation of unremitted earnings, and also takes into consideration any additional regulatory guidance published by the U.S. tax authorities in respect of the Tax Act. The Company expects to finalize the tax expense as soon as practical, but not later than the third quarter of fiscal year 2019. Refer to Note 14, "Income Taxes," for additional information.

Beginning with fiscal year 2019, the global intangible low-taxed income ("GILTI") provisions of the Tax Act requires the Company to subject to U.S. income tax foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. GAAP allows the Company to choose between an accounting policy that treats the U.S. tax under the GILTI provisions as either a current expense as incurred or as a component of the Company's measurement of deferred taxes. Due to the timing of the enactment and the complexity involved in applying the GILTI provisions, the Company does not currently have sufficient information available to develop a reasonable estimate or establish an accounting policy for GILTI. Therefore, the Company has not recorded any tax impacts associated with GILTI on its consolidated financial statements for fiscal year 2018. The Company will continue to analyze the GILTI provisions in fiscal year 2019 as information becomes available to finalize a decision on an accounting policy.

(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 6, "Deferred Revenue," for additional information.

(q) Advertising: Advertising costs are expensed as incurred. Advertising expense was approximately $41 million, $37 million and $35 million, which was included in "Selling and marketing" in the Consolidated Statements of Operations, for fiscal years 2018, 2017 and 2016, 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 10, "Commitments and Contingencies," for additional information.

(s) New Accounting Pronouncements:

New Accounting Pronouncements Recently Adopted:

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 was adopted by the Company when effective in the first quarter of fiscal year 2018. The adoption of ASU 2016-09 resulted in 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 were previously presented as an operating activity. A retrospective method of adoption was required for this change, which resulted in the reclassification of cash outflows of approximately $35 million and $28 million for fiscal years 2017 and 2016, respectively, from operating activities to financing activities within the Consolidated Statements of Cash Flows. Although not material, ASU 2016-09 also requires that excess tax benefits on share-based compensation expense be recognized in the Consolidated Statements of Operations as a component of the provision for income taxes, rather than additional paid-in capital, on a prospective basis. As permitted by ASU 2016-09, although not material, the Company elected to retrospectively reclassify cash flows related to excess tax benefits on share-based compensation expense as an operating activity within the Consolidated Statements of Cash Flows, which were previously presented as a financing activity. In addition, as permitted by ASU 2016-09, the Company elected to continue to estimate forfeitures expected to occur to determine the amount of share-based compensation expense to be recognized in each period.

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. The Company elected to early adopt both ASU 2016-15 and ASU 2016-18 in the first quarter of fiscal year 2018 using the retrospective transition method of adoption. The adoption of these standards did not have a material effect on the Company's consolidated financial statements and related disclosures.

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, 2016 and 2017, 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 adopted in the Company's first quarter of fiscal year 2019 with the cumulative effect recognized as of the date of initial application (modified retrospective method).

The Company has established a cross-functional implementation team consisting of representatives across the organization and a third-party service provider to develop a project plan, including the evaluation of customer contracts across the organization, the development of policies, processes and tools to report financial results, the consideration of new performance measurements, and the implementation and evaluation of the Company's internal controls over financial reporting that will be necessary under the new standard.

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 related disclosures, with the most significant effect relating to the timing of the recognition of its software license revenue. Specifically, under the new standard, the Company will 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. As a result, a significant portion of the Company's revenue backlog (*i.e.*, deferred revenue and future billings on committed contracts) attributable to the license component of customer contracts at March 31, 2018 under existing GAAP will not be recognized as revenue in future periods but instead will be included as part of the cumulative effect adjustment within retained earnings upon adoption of Topic 606. Such cumulative effect adjustment will primarily result from (i) the significant reduction in deferred revenue relating to the license component of customer contracts as mentioned above, (ii) the establishment of a significant contract asset related to the Company's contractual right to consideration for completed performance obligations not yet billed or collected (*i.e.*, license revenue recognized in advance of billings), (iii) the increase in deferred tax liabilities arising from the increase in contract assets, and (iv) the increase in income taxes payable from both the increase in contract assets as a result of the Tax Act and the portion of deferred revenue included in the cumulative effect adjustment that has not been previously included as taxable income on a tax return. The increase in contract assets and decrease in deferred revenue, when taken together with those provisions of the Tax Act which affect tax method revenue recognition for accrual-method U.S. taxpayers, will result in an acceleration of the timing of the Company's income tax payments. This acceleration of the timing of income tax payments will be significant in relation to the Company's current annual income tax payments within cash flows from operations. While the Company has not finalized its assessment of the impact arising from the Topic 606 adoption and finalization of the assessment could result in revisions to these estimates, which could be material, the Company currently estimates additional income tax payments of approximately $150 million per year over a four-year period, beginning in fiscal year 2019. The Company currently expects these additional income tax payments will be largely offset by the benefit from the reduced U.S. corporate tax rate enacted by the Tax Act. The Company believes that taken together, the incremental income tax payments resulting from the Topic 606 adoption and enactment of the Tax Act will be approximately $50 million, on average, per year for the next four years, beginning in fiscal year 2019. Although the Company continues to evaluate the items listed above, it does not currently expect Topic 606 to have a significant effect on its customer billings and cash collections from customer billings.

The Company currently believes that the point-in-time recognition requirement of the new standard will increase the variability of its revenue and overall net income period-to-period. The Company does not currently expect Topic 606 will have a significant effect on the timing of revenue recognition for its maintenance, Software-as-a-Service and professional services contracts. However, 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. These judgments and estimates will also impact the proportion of a contract's value that is reported as license, maintenance and other elements.

Topic 606 will also require the Company to capitalize a portion of its sales commissions and other incremental costs to acquire contracts (*i.e.*, contract costs), which are currently expensed as incurred. Upon adoption of Topic 606, the capitalization of contract costs will be included as part of the cumulative effect adjustment within retained earnings. The Company currently anticipates it will amortize these capitalized contract costs over an expected period of benefit ranging from approximately three to seven years. The Company is currently evaluating the effect of this requirement on its consolidated financial statements and related disclosures.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 ("ASU 2016-02"), *Leases* (Topic 842), with amendments in 2018, 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 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. The Company does not currently expect the adoption of ASU 2016-16 to have a material effect 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 requiring 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. Although the Company is currently evaluating the timing of adoption of ASU 2017-04, it does not currently expect the adoption to have a material effect on its consolidated financial statements and related disclosures.

In August 2017, the FASB issued Accounting Standards Update No. 2017-12 ("ASU 2017-12"), *Targeted Improvements to Accounting for Hedging Activities* (Topic 815), which is intended to improve the financial reporting of hedging relationships to better portray the economic results of risk management activities in financial statements. ASU 2017-12 makes certain targeted improvements to simplify the application of the hedge accounting guidance in current GAAP. ASU 2017-12 will be effective for the Company's first quarter of fiscal year 2020 and requires a prospective method of adoption for the amended presentation and disclosure guidance. Early adoption is permitted. The Company is currently evaluating the timing of adoption and the effect that ASU 2017-12 will have on its consolidated financial statements and related disclosures.

In February 2018, the FASB issued Accounting Standards Update No. 2018-02 ("ASU 2018-02"), *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* (Topic 220), which allows stranded tax effects resulting from the Tax Act to be reclassified from accumulated other comprehensive income to retained earnings. Since ASU 2018-02 only relates to the income tax effects from the Tax Act, the underlying guidance that requires the effects from changes in tax laws or rates be included in income from continuing operations is not affected. ASU 2018-02 will be effective for the Company's first quarter of fiscal year 2020. Early adoption is permitted. Although the Company is currently evaluating the timing of adoption of ASU 2018-02, it does not currently expect the adoption to have a material effect 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 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 Automic, which was finalized during the third quarter of fiscal year 2018, and Veracode, which was finalized during the fourth quarter of fiscal year 2018, is provided within the table below.

(dollars in millions)	Automic	Veracode	Estimated Useful Life
Finite-lived intangible assets [1]	$ 174	$ 99	2-12 years
Purchased software	273	240	1-8 years
Goodwill	303	336	Indefinite
Deferred tax liabilities, net	(92)	(33)	—
Other assets (liabilities), net [2]	17	(24)	—
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 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 was not deductible for tax purposes and was allocated to the Enterprise Solutions segment. During fiscal year 2018, the Company recorded $63 million of additional deferred tax assets relating to Veracode based on further review of their historical tax records.

Since Automic was acquired at the beginning of the fourth quarter of fiscal year 2017, the Consolidated Statement of Operations for fiscal year 2017 included approximately three months of revenue and expenses associated with this acquisition. The Consolidated Statement of Operations for fiscal year 2017 included total revenue of approximately $25 million and net loss of approximately $2 million from Automic from the date of acquisition through March 31, 2017. Veracode was acquired on the last day of fiscal year 2017 and did not contribute any revenue or operating expenses to the Company's Consolidated Statement of Operations for fiscal year 2017.

The Consolidated Statement of Operations for fiscal year 2018 included total revenue of approximately $218 million and net loss of approximately $66 million from Automic and Veracode through their anniversary 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 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.

The pro forma results below were based on estimates and assumptions. 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, 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	$ 4,215
Income from continuing operations	$ 706	$ 652
Basic income from continuing operations per common share	$ 1.68	$ 1.51
Diluted income from continuing operations per common share	$ 1.68	$ 1.51

The pro forma effects of the Company's other fiscal year 2017 acquisitions on the Company's revenues and results of operations 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 (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.

The Consolidated Statement of Operations for fiscal year 2016 included total revenue of approximately $97 million and net loss of approximately $33 million from Rally and Xceedium from the date of acquisition through March 31, 2016. Revenues and results of operations since the date of acquisition for the Company's other fiscal 2016 acquisitions 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 Company had approximately $11 million and $12 million of accrued acquisition-related costs at March 31, 2018 and 2017, 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.

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

The income from discontinued operations for fiscal year 2016 consisted of the following:

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

Note 4 — Restructuring

Accrued restructuring severance and exit costs and changes in the accruals for fiscal years 2018, 2017 and 2016 were as follows:

(in millions)		Accrued Balance at March 31, 2017		Expense		Change in Estimate		Payments		Accretion and Other		Accrued Balance at March 31, 2018
Severance charges	$	1	$	—	$	—	$	(1)	$	—	$	—
Facility exit charges		11		—		—		(3)		(1)		7
Total accrued liabilities	$	12									$	7

(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

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 — Long-Lived Assets

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

(in millions)	At March 31, 2018	At March 31, 2017
Land and buildings	$ 190	$ 172
Equipment, software developed for internal use, furniture and leasehold improvements	912	906
Total property and equipment	$ 1,102	$ 1,078
Accumulated depreciation	(865)	(841)
Property and equipment, net	$ 237	$ 237

Capitalized Software and Other Intangible Assets: The gross carrying amounts and accumulated amortization for capitalized software and other intangible assets at March 31, 2018 were as follows:

	At March 31, 2018				
(in millions)	Gross Amortizable Assets	Less: Fully Amortized Assets	Remaining Amortizable Assets	Accumulated Amortization on Remaining Amortizable Assets	Net Assets
Purchased software products	$ 6,572	$ 4,961	$ 1,611	$ 845	$ 766
Internally developed software products	1,467	1,347	120	109	11
Other intangible assets	1,226	823	403	69	334
Total capitalized software and other intangible assets	$ 9,265	$ 7,131	$ 2,134	$ 1,023	$ 1,111

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

There were no impairments recorded for internally developed software products or purchased software products during fiscal years 2018 and 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 16, "Segment and Geographic Information," for additional information). There were no impairments recorded for internally developed software products during fiscal year 2016.

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)	2018	2017	2016
Depreciation	$ 66	$ 58	$ 62
Amortization of purchased software products	235	164	146
Amortization of internally developed software products	36	79	110
Amortization of other intangible assets	41	19	44
Total depreciation and amortization expense	$ 378	$ 320	$ 362

Based on the capitalized software and other intangible assets recognized at March 31, 2018, the annual amortization expense over the next five fiscal years is expected to be as follows:

	Year Ended March 31,				
(in millions)	2019	2020	2021	2022	2023
Purchased software products	$ 186	$ 163	$ 119	$ 110	$ 83
Internally developed software products	9	2	—	—	—
Other intangible assets	41	37	37	36	32
Total	$ 236	$ 202	$ 156	$ 146	$ 115

Goodwill: The accumulated goodwill impairment losses previously recognized by the Company totaled approximately $111 million at March 31, 2018 and 2017. These losses were recognized in fiscal years 2003 and 2002. There were no impairments recognized in fiscal years 2018, 2017 and 2016.

Goodwill activity by segment for fiscal years 2018 and 2017 was as follows:

(in millions)	Mainframe Solutions	Enterprise Solutions	Services	Total
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
Acquisitions [(1)]	—	(105)	—	(105)
Foreign currency translation adjustment	—	52	—	52
Balance at March 31, 2018	$ 4,178	$ 2,545	$ 81	$ 6,804

(1) Acquisitions amount relates to purchase price allocation adjustments that occurred during fiscal year 2018.

Note 6 — Deferred Revenue

The current and noncurrent components of "Deferred revenue (billed or collected)" at March 31, 2018 and March 31, 2017 were as follows:

	At March 31,	
(in millions)	2018	2017
Current:		
Subscription and maintenance	$ 1,953	$ 1,948
Professional services	140	135
Software fees and other	196	139
Total deferred revenue (billed or collected) – current	$ 2,289	$ 2,222
Noncurrent:		
Subscription and maintenance	$ 798	$ 769
Professional services	15	19
Software fees and other	7	6
Total deferred revenue (billed or collected) – noncurrent	$ 820	$ 794
Total deferred revenue (billed or collected)	$ 3,109	$ 3,016

Note 7 — Debt

At March 31, 2018 and 2017, the Company's debt obligations consisted of the following:

	At March 31,	
(in millions)	2018	2017
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	500
4.500% Senior Notes due August 2023	250	250
4.700% Senior Notes due March 2027	350	350
Term Loan due April 2023	285	300
Other indebtedness, primarily capital leases	10	8
Unamortized debt issuance costs	(11)	(14)
Unamortized discount for Senior Notes	(1)	(3)
Total debt outstanding	$ 2,783	$ 2,791
Less the current portion	(269)	(18)
Total long-term debt portion	$ 2,514	$ 2,773

Interest expense for fiscal years 2018, 2017 and 2016 was $127 million, $90 million and $81 million, respectively.

The maturities of outstanding debt are as follows:

	Year Ended March 31,					
(in millions)	2019	2020	2021	2022	2023	Thereafter
Amount due	$ 269	$ 767	$ 414	$ 31	$ 710	$ 592

Revolving Credit Facility: In June 2017, the Company amended its revolving credit facility to extend the termination date from June 2019 to June 2022. 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.

There was no borrowing activity under the revolving credit facility for fiscal years 2018 and 2017. 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.

At March 31, 2018 and 2017, 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, 2018 and 2017 were as follows:

	At March 31,	
	2018	2017
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, 2018 to a borrowing under the amended revolving credit facility would have been 4.88% for Base Rate borrowings and 2.88% 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, 2018, 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.

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 (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 (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 (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 (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 (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 (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 2023: In October 2015, the Company entered into a term loan agreement with Bank of America, N.A. (“Term Loan Agreement”). The Term Loan Agreement provided for a $300 million term loan (“Term Loan”) with a maturity date of April 20, 2022. In April 2018, the Company amended its Term Loan Agreement to extend the maturity date to April 20, 2023.

The Term Loan Agreement requires quarterly principal amortization payments in an amount equal to, from April 1, 2017 through January 1, 2021, 1.25%, and, from April 1, 2021 through January 1, 2022, 2.50%, of the original stated principal amount of the Term Loan, with the balance of the Term Loan due in full on April 20, 2023. The Company may prepay the outstanding principal amount of the Term Loan in whole or in part without premium or penalty.

The Term Loan bears interest at a rate dependent on the Company’s credit ratings applicable from time to time and, at the Company’s option, is calculated according to a base rate or a Eurodollar rate, as the case may be, plus an applicable margin. Based on the April 2018 amendment and 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 0.000% to 0.500% and the applicable margin for any portion of the Term Loan accruing interest based on the Eurodollar rate ranges from 0.875% to 1.500%. At the Company’s current credit ratings, the applicable margin would be 0.125% for interest at the base rate and 1.125% 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 had approximately $114 million of unsecured and uncommitted multi-currency lines of credit at both March 31, 2018 and 2017 available to meet short-term working capital needs for the Company's subsidiaries. The Company uses guarantees and letters of credit issued by financial institutions to guarantee performance on certain contracts and other items. At March 31, 2018 and 2017, approximately $60 million and $51 million, respectively, of these lines of credit were pledged in support of bank guarantees and other local credit lines. At March 31, 2018 and 2017, 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, 2018 and 2017, the borrowings outstanding under this notional pooling arrangement, and changes therein, were as follows:

	At March 31,	
(in millions)	2018	2017
Total borrowings outstanding at beginning of year [1]	$ 137	$ 139
Borrowings	2,310	2,374
Repayments	(2,354)	(2,351)
Foreign exchange effect	44	(25)
Total borrowings outstanding at end of year [1]	$ 137	$ 137

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

Note 8 — 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.

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 currency 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 and development costs. 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. Primary 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, 2018, foreign currency contracts outstanding consisted of purchase and sale contracts with a total gross notional value of approximately $456 million, and durations of less than three months. The net fair value of these contracts at March 31, 2018 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, 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.

A summary of the effect of foreign currency derivatives on the Company's Consolidated Statements of Operations was as follows:

	Amount of Net Loss Recognized in the Consolidated Statements of Operations		
Location of Amounts Recognized	Year Ended March 31,		
(in millions)	2018	2017	2016
Other expenses, net – foreign currency contracts	$ 13	$ 4	$ 6

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, 2018 and 2017. The Company posted no collateral at March 31, 2018 or 2017. 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 9 — 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, 2018 and 2017:

	At March 31, 2018			At March 31, 2017		
	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)	$ 1,281	$ —	$ 1,281	$ 1,077	$ —	$ 1,077
Foreign exchange derivatives (2)	—	2	2	—	2	2
Total assets	$ 1,281	$ 2	$ 1,283	$ 1,077	$ 2	$ 1,079
Liabilities:						
Foreign exchange derivatives (2)	$ —	$ 1	$ 1	$ —	$ 1	$ 1
Total liabilities	$ —	$ 1	$ 1	$ —	$ 1	$ 1

(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 8, "Derivatives" for additional information.

At March 31, 2018 and 2017, 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, 2018 and 2017:

	At March 31, 2018		At March 31, 2017	
(in millions)	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Liabilities:				
Total debt (1)	$ 2,783	$ 2,844	$ 2,791	$ 2,903
Facility exit reserve (2)	$ 7	$ 8	$ 11	$ 12

(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, 2018 and 2017. At March 31, 2018 and 2017, the facility exit reserve included approximately $2 million and $3 million, respectively, in "Accrued expenses and other current liabilities" and approximately $5 million and $8 million, respectively, in "Other noncurrent liabilities" in the Company's Consolidated Balance Sheets (Level 3).

Note 10 — Commitments and Contingencies

The Company leases real estate and equipment with lease terms expiring through fiscal year 2029. 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 $142 million, $138 million and $142 million for fiscal years 2018, 2017 and 2016, 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, 2018 were as follows:

Fiscal Year		*(in millions)*
2019	$	97
2020		85
2021		74
2022		54
2023		38
Thereafter		110
Total	$	458
Less income from subleases		(33)
Net minimum operating lease payments	$	425

The Company has additional commitments to purchase goods and services of approximately $181 million in future periods, approximately $164 million of which expires by fiscal year 2023.

In connection with the share repurchase arrangement with Careal Holding AG ("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 $106 million at March 31, 2018). 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. Refer to Note 11, "Stockholders' Equity" for additional information.

Litigation: The Company, from time to time, may be named as a defendant 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.

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 any amounts that have been accrued.

Note 11 — Stockholders' Equity

Stock Repurchases: On November 13, 2015, the Board of Directors (the "Board") approved a stock repurchase program that authorized the Company to acquire up to $750 million of its common stock. During fiscal year 2018, the Company repurchased approximately 5.0 million shares of its common stock for approximately $163 million. At March 31, 2018, the Company remained authorized to purchase approximately $487 million of its common stock under its current stock repurchase program.

During fiscal year 2017, the Company repurchased approximately 3.1 million shares of its common stock for approximately $100 million.

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 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. As of March 31, 2018, Careal and its shareholders collectively owned, directly and indirectly, approximately 25.2% of the Company's total outstanding common stock.

Accumulated Other Comprehensive Loss: Foreign currency translation losses included in "Accumulated other comprehensive loss" in the Company's Consolidated Balance Sheets at March 31, 2018, 2017 and 2016 were approximately $290 million, $483 million and $416 million, respectively.

Cash Dividends: The Board declared the following dividends during fiscal years 2018 and 2017:

Year Ended March 31, 2018:

(in millions, except per share amounts)

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
May 9, 2017	$0.255	May 25, 2017	$107	June 13, 2017
August 9, 2017	$0.255	August 24, 2017	$108	September 12, 2017
November 9, 2017	$0.255	November 30, 2017	$106	December 12, 2017
February 7, 2018	$0.255	February 22, 2018	$107	March 13, 2018

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

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 90th 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 12 — 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 2018, 2017 and 2016, respectively:

	Year Ended March 31,		
(in millions, except per share amounts)	2018	2017	2016
Basic income from continuing operations per common share:			
Income from continuing operations	$ 476	$ 775	$ 769
Less: Income from continuing operations allocable to participating securities	(6)	(9)	(8)
Income from continuing operations allocable to common shares	$ 470	$ 766	$ 761
Weighted average common shares outstanding	414	414	426
Basic income from continuing operations per common share	$ 1.14	$ 1.85	$ 1.79
Diluted income from continuing operations per common share:			
Income from continuing operations	$ 476	$ 775	$ 769
Less: Income from continuing operations allocable to participating securities	(6)	(9)	(8)
Income from continuing operations allocable to common shares	$ 470	$ 766	$ 761
Weighted average shares outstanding and common share equivalents:			
Weighted average common shares outstanding	414	414	426
Weighted average effect of share-based payment awards	1	1	1
Denominator in calculation of diluted income per share	415	415	427
Diluted income from continuing operations per common share	$ 1.13	$ 1.85	$ 1.78

For fiscal years 2018, 2017 and 2016, respectively, approximately 2 million, 1 million and 2 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, 5 million and 4 million for fiscal years 2018, 2017 and 2016, respectively, were considered participating securities in the calculation of net income allocable to common stockholders.

Note 13 — 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, RSAs, RSUs, 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, of which 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, as amended, 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)	2018	2017	2016
Costs of licensing and maintenance	$ 8	$ 7	$ 7
Cost of professional services	3	3	4
Selling and marketing	38	37	34
General and administrative	45	38	35
Product development and enhancements	26	23	17
Share-based compensation expense before tax	$ 120	$ 108	$ 97
Income tax benefit	(37)	(35)	(31)
Net share-based compensation expense	$ 83	$ 73	$ 66

The following table summarizes information about unrecognized share-based compensation costs at March 31, 2018:

	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	18	1.8
Restricted stock awards	64	1.8
Performance share units	33	2.2
Total unrecognized share-based compensation costs	$ 119	1.9

There were no capitalized share-based compensation costs at March 31, 2018, 2017 or 2016.

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, 2018, 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	2.4	$	27.79	5.9	$	14.6
Expected to vest [2]	1.7		31.57	8.5		4.1
Total	4.1	$	29.37	7.0	$	18.7

(1) These amounts represent the difference between the exercise price and $33.90, the closing price of the Company's common stock on March 29, 2018, 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, 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
Granted	1.0		31.69
Exercised	(0.5)		29.36
Expired or terminated	—		—
Outstanding at March 31, 2018	4.3	$	29.48

	Number of Shares *(in millions)*		Weighted Average Exercise Price
Options exercisable at:			
March 31, 2016	2.0	$	26.16
March 31, 2017	2.1	$	27.09
March 31, 2018	2.4	$	27.79

The following table summarizes stock option information at March 31, 2018:

	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	$ 7.1	4.8	$ 23.50	0.7	$ 7.1	4.8	$ 23.50
$25.01 — $30.00	0.8	4.6	5.7	27.85	0.7	4.5	5.6	27.81
$30.01 — over	2.8	7.4	8.0	31.34	1.0	3.0	6.9	30.82
	4.3	$ 19.1	7.1	$ 29.48	2.4	$ 14.6	5.9	$ 27.79

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 2018, 2017 and 2016 were based on estimates at the date of grant as follows:

	Year Ended March 31,		
	2018	2017	2016
Weighted average fair value	$ 4.72	$ 4.42	$ 4.68
Dividend yield	3.17%	3.56%	3.37%
Expected volatility factor (1)	21%	22%	23%
Risk-free interest rate (2)	2.1%	1.5%	1.9%
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)	2018	2017	2016
Cash received from options exercised	$ 16	$ 22	$ 4
Intrinsic value of options exercised	$ 3	$ 5	$ 1

RSAs and RSUs: 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.

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, 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
Granted	3.0	31.76	1.1	30.47
Released	(2.3)	30.51	(1.0)	29.61
Forfeitures	(0.6)	31.41	(0.1)	29.31
Outstanding at March 31, 2018	4.6	$ 31.52	1.3	$ 29.47

The total fair value on the vesting date of RSAs and RSUs released during fiscal years 2018, 2017 and 2016 was approximately $98 million, $88 million and $78 million, respectively.

Performance Awards: The Company rewards certain senior executives with performance awards under its long-term incentive plans. 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 2017, 2016 and 2015 incentive plan years. The RSAs and RSUs were granted in the first quarter of fiscal years 2018, 2017 and 2016, 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
2017	1 year	0.6	$ 31.69	0.1	$ 30.69
2016	1 year	0.6	$ 31.53	0.1	$ 30.53
2015	1 year	0.5	$ 31.41	0.1	$ 30.42

The table below summarizes the shares of common stock issued under the 3-year PSUs for the Company's fiscal year 2015, 2014 and 2013 incentive plan years in the first quarter of fiscal years 2018, 2017 and 2016, respectively.

Incentive Plans for Fiscal Years	Performance Period	Shares of Common Stock *(in millions)*	Weighted Average Grant Date Fair Value
2015	3 years	0.4	$ 31.69
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 2017, 2016 and 2015 sales retention equity programs. The RSAs and RSUs were granted in the first quarter of fiscal years 2018, 2017 and 2016, 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
2017	1 year	0.2	$ 31.69	0.1	$ 28.70
2016	1 year	0.3	$ 31.53	0.1	$ 28.52
2015	1 year	0.2	$ 30.45	0.1	$ 27.50

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, 2018, 2017 and 2016, the Company issued approximately 0.2 million shares under the ESPP at an average price of $32.15, $30.65 and $27.47 per share, respectively. As of March 31, 2018, approximately 28.8 million shares were available for future issuances under the ESPP.

Note 14 – 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)	2018	2017	2016
Domestic	$ 704	$ 787	$ 729
Foreign	317	286	355
Income from continuing operations before income taxes	$ 1,021	$ 1,073	$ 1,084

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

	Year Ended March 31,		
(in millions)	2018	2017	2016
Current:			
Federal	$ 385	$ 215	$ 285
State	36	30	50
Foreign	85	74	95
Total current	$ 506	$ 319	$ 430
Deferred:			
Federal	$ 60	$ 2	$ (86)
State	(10)	(5)	(20)
Foreign	(11)	(18)	(9)
Total deferred	$ 39	$ (21)	$ (115)
Total:			
Federal	$ 445	$ 217	$ 199
State	26	25	30
Foreign	74	56	86
Total income tax expense from continuing operations	$ 545	$ 298	$ 315

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)	2018	2017	2016
Tax expense at U.S. federal statutory tax rate	$ 322	$ 376	$ 379
Tax Cuts and Jobs Act	290	—	—
Effect of international operations	(61)	(70)	(77)
U.S. federal and state tax contingencies	(2)	—	8
Domestic manufacturing deduction	(21)	(23)	(27)
State taxes, net of U.S. federal tax benefit	16	16	16
Valuation allowance	(9)	(16)	3
Other, net	10	15	13
Income tax expense from continuing operations	$ 545	$ 298	$ 315

Income tax expense from continuing operations includes approximately $290 million resulting from reasonable estimates of the impact of changes in tax law in the United States from the Tax Act. The amounts recorded for the impacts of the Tax Act are provisional amounts of approximately $194 million related to the taxation of unremitted earnings of the Company’s foreign subsidiaries, which is payable over eight years, and approximately $96 million related to the remeasurement of deferred tax assets and liabilities for the change in income tax rates. The provisional amounts were reduced by approximately $28 million from the Company's prior estimate due to results from the full fiscal year 2018 operations needed for calculations under the Tax Act and analysis of the historic unremitted earnings of the Company's foreign subsidiaries. The Company will continue to refine the provisional amounts as it reviews and analyzes the historic unremitted earnings of its foreign subsidiaries, as well as the attendant computations that impact the measurement of the taxation of unremitted earnings, and also takes into consideration any additional regulatory guidance published by the U.S. tax authorities in respect of the Tax Act. The Company expects to finalize the tax expense as soon as practical, but not later than the third quarter of fiscal year 2019.

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)	2018	2017
Deferred tax assets:		
Modified accrual basis accounting for revenue	$ 283	$ 364
Share-based compensation	31	41
Accrued expenses	12	11
Net operating losses	125	149
Deductible state tax and interest benefits	10	19
Other	51	62
Total deferred tax assets	$ 512	$ 646
Valuation allowance	(72)	(89)
Total deferred tax assets, net of valuation allowance	$ 440	$ 557
Deferred tax liabilities:		
Purchased software	$ 129	$ 207
Depreciation	—	3
Other intangible assets	70	116
Internally developed software	5	23
Total deferred tax liabilities	$ 204	$ 349
Net deferred tax asset	$ 236	$ 208

In management’s judgment, it is more likely than not that the total deferred tax assets, net of valuation allowance, of approximately $440 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 $734 million and $702 million at March 31, 2018 and 2017, respectively. The NOLs will expire as follows: $526 million between 2019 and 2038 and $208 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 $17 million and $7 million at March 31, 2018 and 2017, respectively. The decrease in the valuation allowance at both March 31, 2018 and 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 NOLs.

Previously, the Company did not recognize a deferred tax liability related to undistributed foreign earnings of its subsidiaries because such earnings were considered to be indefinitely reinvested in its foreign operations. Under the Tax Act, all foreign earnings are subject to U.S. taxation and the Company has recorded a provisional estimate of approximately $194 million for the deemed repatriation tax on these earnings. Except to the extent of the U.S. income tax recognized under the Tax Act, the Company has not recognized other income taxes (*e.g.*, state and foreign) and withholding taxes that would be incurred upon remittance of approximately $2,274 million and $3,202 million at March 31, 2018 and 2017, respectively, of unremitted earnings of the Company’s foreign subsidiaries since the Company plans to permanently reinvest all such earnings outside the United States. Due to complexities in the laws of the foreign jurisdictions and the assumptions that would have to be made, it is not practicable to estimate the amount of tax associated with such unremitted earnings.

At March 31, 2018, the gross liability for income taxes associated with uncertain tax positions, including interest and penalties, was approximately $157 million (of which approximately $7 million was classified as current). In addition, at March 31, 2018, the Company recorded approximately $10 million of deferred tax assets for future deductions of interest and state income taxes related to these uncertain tax positions. 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.

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)	2018	2017
Balance at beginning of year	$ 132	$ 143
Additions for tax positions related to the current year	11	13
Additions for tax positions from prior years	25	4
Reductions for tax positions from prior years	(8)	(9)
Settlement payments	(16)	(3)
Statute of limitations expiration	(16)	(13)
Translation and other	5	(3)
Balance at end of year	$ 133	$ 132

The amount of unrecognized tax benefits excluding interest and penalties that, if recognized, would affect the effective tax rate was approximately $124 million and $116 million at March 31, 2018 and 2017, respectively. The gross amount of interest and penalties accrued, reported in “Total liabilities,” was approximately $24 million and $29 million for fiscal years 2018 and 2017, respectively. The amount of interest and penalties decreased approximately $5 million for fiscal year 2018 and increased approximately $9 million for fiscal year 2017.

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 2015 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 judicial procedures, as appropriate. As the result of decisions at the administrative courts, the total potential liability from the tax assessment at March 31, 2018 was approximately 228 million Brazilian reais (which translated to approximately $69 million at March 31, 2018), including interest and penalties accumulated through March 31, 2018 and further regulatory assessments associated with appealing to the judicial courts. 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 15 — Supplemental Statement of Cash Flows Information

Interest payments for fiscal years 2018, 2017 and 2016 were approximately $122 million, $86 million and $75 million, respectively. Income taxes paid, net from continuing operations for fiscal years 2018, 2017 and 2016 were approximately $350 million, $384 million and $365 million, respectively.

Non-cash financing activities for fiscal years 2018, 2017 and 2016 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 $47 million (net of approximately $36 million of income taxes withheld), $44 million (net of approximately $33 million of income taxes withheld) and $43 million (net of approximately $28 million of income taxes withheld), respectively; discretionary stock contributions to the CA, Inc. Savings Harvest Plan of approximately $23 million, $24 million and $24 million, respectively; and the Company's ESPP of approximately $5 million, $5 million and $5 million, respectively.

Note 16 — 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 generally 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, severance and facility actions approved 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.

The Company's segment information for fiscal years 2018, 2017 and 2016 was as follows:

Year Ended March 31, 2018 *(dollars in millions)*	Mainframe Solutions	Enterprise Solutions	Services	Total
Revenue	$ 2,176	$ 1,748	$ 311	$ 4,235
Expenses	785	1,597	302	2,684
Segment profit	$ 1,391	$ 151	$ 9	$ 1,551
Segment operating margin	64%	9%	3%	37%
Depreciation	$ 37	$ 29	$ —	$ 66

Reconciliation of segment profit to income from continuing operations before income taxes for fiscal year 2018:

Segment profit	$ 1,551
Less:	
Purchased software amortization	235
Other intangibles amortization	41
Internally developed software products amortization	36
Share-based compensation expense	120
Interest expense, net	98
Income from continuing operations before income taxes	$ 1,021

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.

The following table presents information about the Company by geographic area for fiscal years 2018, 2017 and 2016:

(in millions)	United States	EMEA [1]	Other	Eliminations	Total
Year Ended March 31, 2018					
Revenue:					
From unaffiliated customers	$ 2,674	$ 979	$ 582	$ —	$ 4,235
Between geographic areas [2]	416	—	—	(416)	—
Total revenue	$ 3,090	$ 979	$ 582	$ (416)	$ 4,235
Property and equipment, net	$ 94	$ 106	$ 37	$ —	$ 237
Total assets	$ 9,464	$ 2,638	$ 958	$ —	$ 13,060
Total liabilities	$ 5,753	$ 986	$ 426	$ —	$ 7,165
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

(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 2018, 2017 or 2016.

Note 17 — 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, $37 million and $38 million for fiscal years 2018, 2017 and 2016, respectively. Included in these amounts were discretionary stock contributions of approximately $24 million, $24 million and $25 million for fiscal years 2018, 2017 and 2016, respectively.

Note 18 — Subsequent Events

On May 2, 2018, the Company's Board of Directors approved a restructuring plan (“Fiscal 2019 Plan”) to better align its business priorities. The Fiscal 2019 Plan comprises the termination of approximately 800 employees and global facility exits and consolidations. The Company intends to fill many of the positions involved in the Fiscal 2019 Plan with new employees who have different skill sets. These actions are intended to better align the Company’s cost structure with the skills and resources required to more effectively pursue opportunities in the marketplace and execute the Company’s long-term growth strategy. Severance and facility exit and consolidation actions under the Fiscal 2019 Plan are expected to be substantially completed by the end of fiscal year 2019. Under the Fiscal 2019 Plan, the Company expects to incur a pre-tax charge between approximately $140 million and $160 million (including severance costs between approximately $90 million and $100 million and facility exit and consolidation costs between approximately $50 million and $60 million).

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, 2018	$ 11	$ 2	$ (3)	$ 10
Year Ended March 31, 2017	$ 9	$ 3	$ (1)	$ 11
Year Ended March 31, 2016	$ 17	$ (2)	$ (6)	$ 9

(1) Write-off of amounts against allowance provided.

Exhibit 10.49

CA, Inc. Change in Control Severance Policy
(Amended and Restated as of August 5, 2015)

(Schedule as of May 9, 2018)*

Schedule A
(2.99 Multiple)

Chief Executive Officer (Michael P. Gregoire)
Executive Vice President and Chief Financial Officer (Kieran J. McGrath)
President, Chief Products Officer (Ayman Sayed)

[Employees may be added or eliminated from time to time]

Schedule B
(2.00 Multiple)

Executive Vice President and Chief Marketing Officer (Lauren P. Flaherty)

[Employees may be added or eliminated from time to time]

Schedule C
(1.00 Multiple)

** This Schedule reflects current participation by the Company's Named Executive Officers of the Company as of the date of filing of this Exhibit.*

[Employees may be added or eliminated from time to time]

Exhibit 10.52

EXECUTION COPY

U.S. $300,000,000

AMENDED AND RESTATED TERM LOAN AGREEMENT

Dated as of April 20, 2018

Among

CA, INC.

as Borrower

THE BANKS NAMED HEREIN

as Banks

BANK OF AMERICA, N.A.

as Administrative Agent

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AMENDED AND RESTATED TERM LOAN AGREEMENT

Dated as of April 20, 2018

CA, INC., a Delaware corporation (the "Borrower"), the banks and other financial institutions (the "Banks") and BANK OF AMERICA, N.A. ("Bank of America"), as administrative agent (the "Agent") for the Lenders (as hereinafter defined), agree as follows:

PRELIMINARY STATEMENT. The Borrower, the lenders parties thereto and Bank of America, as administrative agent, are parties to a $300,000,000 Term Loan Agreement, dated as of October 20, 2015 (the "Existing Credit Agreement"). Subject to the satisfaction of the conditions set forth in Section 3.01, the Borrower, the parties hereto and Bank of America, as Agent, desire to amend and restate the Existing Credit Agreement as herein set forth.

Article I

DEFINITIONS AND ACCOUNTING TERMS

SECTION 1.01 Certain Defined Terms. As used in this Agreement, the following terms shall have the following meanings (such meanings to be equally applicable to both the singular and plural forms of the terms defined):

"Administrative Questionnaire" means an Administrative Questionnaire in a form supplied by the Agent.

"Advance" means an advance by a Lender to the Borrower as part of a Borrowing and refers to a Base Rate Advance or a Eurodollar Rate Advance (each of which shall be a "Type" of Advance).

"Affiliate" means, as to any Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person or, in each case in which "Affiliate" is used in relation to the Borrower, is a director or officer of such Person. For purposes of this definition, the term "control" (including the terms "controlling", "controlled by" and "under common control with") of a Person means the possession, direct or indirect, of the power to vote, in each case in which "Affiliate" is used in relation to the Borrower, 10% or more of the Voting Stock or, in each case in which "Affiliate" is used in relation to a Lender or the Agent, a majority of the Voting Stock of such Person or to direct or cause the direction of the management and policies of such Person, whether through the ownership of Voting Stock, by contract or otherwise.

"Agent's Account" means (a) the account of the Agent at Bank of America, N.A., New York, NY, ABA 026009593, Account Name: Credit Services-Dallas; Account Number: 1292000883, Ref: CA, Inc. and (b) such other account of the Agent as is designated in writing from time to time by the Agent to the Borrower and the Lenders for such purpose.

"Anti-Corruption Laws" means all laws, rules, and regulations of any jurisdiction applicable to the Borrower or its Subsidiaries from time to time concerning or relating to bribery or corruption.

"Applicable Lending Office" means, with respect to each Lender, such Lender's Domestic Lending Office in the case of a Base Rate Advance and such Lender's Eurodollar Lending Office in the case of a Eurodollar Rate Advance.

"Applicable Margin" means, as of any date for each of Base Rate Advances and Eurodollar Rate Advances, a percentage per annum determined by reference to the Public Debt Rating in effect on such date as set forth below:

Public Debt Rating S&P/Moody's	Applicable Margin for Base Rate Advances	Applicable Margin for Eurodollar Rate Advances
Level 1 A/A2 or better	0.000%	0.875%
Level 2 A-/A3	0.000%	1.000%
Level 3 BBB+/Baa1	0.125%	1.125%
Level 4 BBB/Baa2	0.250%	1.250%
Level 5 Lower than Level 4	0.500%	1.500%

"Approved Fund" means any Person (other than a natural person) that is engaged in making, purchasing, holding or investing in bank loans and similar extensions of credit in the ordinary course of its business and that is administered or managed by (x) a Lender, (y) an Affiliate of a Lender or (z) an entity or an Affiliate of an entity that administers or manages a Lender.

"Assignment and Assumption" means an assignment and assumption entered into by a Lender and an Eligible Assignee (with the consent of each party whose consent is required by Section 8.07), and accepted by the Agent, in substantially the form of Exhibit C or any other form approved by the Agent.

"Bail-In Action" has the meaning specified in Section 8.17.

"Base Rate" means a fluctuating interest rate per annum in effect from time to time, which rate per annum shall at all times be equal to the highest of:

(a) the rate of interest announced publicly by Bank of America in New York, New York, from time to time, as Bank of America's prime rate;

(b) ½ of one percent per annum above the Federal Funds Rate; and

(c) the ICE Benchmark Administration Limited Settlement Rate (or the successor thereto if ICE Benchmark Administration Limited is no longer making such rates available) applicable to US dollars for a period of one month ("One Month LIBOR") plus 1.00% (for the avoidance of doubt, the One Month LIBOR for any day shall be based on the rate appearing on the applicable Bloomberg page (or other commercially available source providing such quotations as designated by the Agent from time to time) at approximately

11:00 a.m. London time on such day); provided that, if One Month LIBOR shall be less than zero, such rate shall be deemed zero for purposes of this Agreement.

"Base Rate Advance" means an Advance that bears interest as provided in Section 2.07(a)(i).

"Borrowing" means, initially, the borrowing consisting of simultaneous Advances by the Lenders. After the Advances are outstanding, "Borrowing" means a portion of the Advances (as to which each Lender has a ratable part) that (a) bears interest by reference to the Base Rate or (b) bears interest by reference to the Eurodollar Rate and has a single Interest Period.

"Business Day" means a day of the year on which banks are not required or authorized by law to close in New York City and, if the applicable Business Day relates to any Eurodollar Rate Advances, on which dealings are carried on in the London interbank market.

"Commitment" means, with respect to any Lender at any time, the amount set forth opposite such Lender's name on Schedule I hereto under the caption "Commitment" or, if such Lender has entered into one or more Assignment and Assumptions, set forth for such Lender in the Register maintained by the Agent pursuant to Section 8.07(c) as such Lender's "Commitment".

"Consolidated" refers to the consolidation of accounts in accordance with generally accepted accounting principles.

"Consolidated Cash Flow" means, for any period, the sum of (a) the amount set forth as "Net Cash Provided by Operating Activities" (or a comparable term) in the Consolidated statements of cash flows of the Borrower and its Subsidiaries for such period plus (b) Consolidated Interest Expense for such period.

"Consolidated Interest Expense" means, for any period, the sum of interest payable on, and amortization of debt discount in respect of, all Debt of the Borrower and its Subsidiaries during such period.

"Convert", "Conversion" and "Converted" each refers to a conversion of Advances of one Type into Advances of the other Type pursuant to Section 2.08 or 2.09.

"Debt" of any Person means, without duplication, (a) all indebtedness of such Person for borrowed money, (b) all obligations of such Person for the deferred purchase price of property or services (other than trade payables not overdue incurred in the ordinary course of such Person's business), (c) all obligations of such Person evidenced by notes, bonds, debentures or other similar instruments, (d) all obligations of such Person created or arising under any conditional sale or other title retention agreement with respect to property acquired by such Person (even though the rights and remedies of the seller or lender under such agreement in the event of default are limited to repossession or sale of such property), (e) all obligations of such Person as lessee under leases that have been or should be, in accordance with GAAP, recorded as capital leases, (f) all non-contingent obligations of such Person in respect of acceptances, letters of credit or similar extensions of credit, (g) all obligations of such Person in respect of Hedge Agreements, (h) all Debt of others referred to in clauses (a) through (g) above or clause (i) below guaranteed directly or indirectly in any manner by such Person, or in effect guaranteed directly or indirectly by such Person through an agreement (1) to pay or purchase such Debt or to advance or supply funds for the payment or purchase of such Debt, (2) to purchase, sell or lease (as lessee or lessor) property, or to purchase or sell services, primarily for the purpose of enabling the debtor to make payment of such Debt or to assure the holder of such Debt against loss, (3) to supply funds to or in any other manner invest in the debtor (including any agreement to pay for property or services irrespective of whether such property is received or such services are rendered) or (4) otherwise to assure a creditor against loss, and (i) all Debt referred to in clauses (a) through (h) above secured by (or for which the holder of such Debt has an existing, non-contingent right to be secured by) any Lien on property (including, without limitation, accounts and contract rights) owned by such Person, even though such Person has not assumed or become liable for the payment of such Debt.

"Debt for Borrowed Money" means Debt of the types described in clauses (a) though (f) of the definition of "Debt".

"Default" means any Event of Default or any event that would constitute an Event of Default but for the requirement that notice be given or time elapse or both.

"Defaulting Lender" means at any time, subject to Section 2.20(d), (i) any Lender that has failed for three or more Business Days to comply with its obligations under this Agreement to make an Advance or make any other payment due hereunder (each, a "funding obligation"), unless such Lender has notified the Agent and the Borrower in writing that such failure is the result of such Lender's determination that one or more conditions precedent to funding has not been satisfied (which conditions precedent, together with the applicable default, if any, will be specifically identified in such writing), (ii) any Lender that has notified the Agent or the Borrower in writing, or has stated publicly, that it does not intend to comply with its funding obligations hereunder, unless such writing or statement states that such position is based on such Lender's determination that one or more conditions precedent to funding cannot be satisfied (which conditions precedent, together with the applicable default, if any, will be specifically identified in such writing or public statement), (iii) any Lender that has notified, or whose Parent Company has notified, the Agent or the Borrower in writing, or has stated publicly, that it does not intend to comply with its funding obligations under loan agreements or credit agreements generally, (iv) any Lender that has, for three or more Business Days after written request of the Agent or the Borrower, failed to confirm in writing to the Agent and the Borrower that it will comply with its prospective funding obligations hereunder (provided that such Lender will cease to be a Defaulting Lender pursuant to this clause (iv) upon the Agent's and the Borrower's receipt of such written confirmation), or (v) any Lender with respect to which a Bail-In Action or a Lender Insolvency Event has occurred and is continuing with respect to such Lender or its Parent Company; provided that a Lender Insolvency Event shall not be deemed to occur with respect to a Lender or its Parent Company solely as a result of the acquisition or maintenance of an ownership interest in such Lender or Parent Company by a governmental authority or instrumentality thereof where such action does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority or instrumentality) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Agent (or if the Agent is subject of any events described in clause (v) of the immediately preceding sentence, by the Borrower or the Required Lenders) that a Lender is a Defaulting Lender under any of clauses (i) through (v) above will be conclusive and binding absent manifest error, and such Lender will be deemed to be a Defaulting Lender (subject to Section 2.20(d)) upon notification of such determination by the Agent (or the Required Lenders or the Borrower, as the case may be) to the Borrower and the Lenders.

"Disclosed Litigation" has the meaning specified in Section 3.01(b).

"Dollars" and the "$" sign each means lawful currency of the United States of America.

"Domestic Lending Office" means, with respect to any Lender, the office of such Lender specified as its "Domestic Lending Office" in its Administrative Questionnaire delivered to the Agent, or such other office, branch or Affiliate of such Lender as such Lender may from time to time specify in writing to the Borrower and the Agent.

"EEA Financial Institution" has the meaning specified in Section 8.17.

"Effective Date" has the meaning specified in Section 3.01.

"Eligible Assignee" means any Person that meets the requirements to be an assignee under Section 8.07(b)(iii), (v) and (vi) (subject to such consents, if any, as may be required under Section 8.07(b)(iii)).

"Environmental Action" means any action, suit, demand, demand letter, claim, notice of non-compliance or violation, notice of liability or potential liability, investigation, proceeding, consent order or consent agreement relating in any way to any Environmental Law, Environmental Permit or Hazardous Materials or arising from alleged injury or threat of injury to health, safety or the environment, including, without limitation, (a) by any governmental or regulatory authority for enforcement, cleanup, removal, response, remedial or other actions or damages and (b) by any governmental or regulatory authority or any third party for damages, contribution, indemnification, cost recovery, compensation or injunctive relief.

"Environmental Law" means any federal, state, local or foreign statute, law, ordinance, rule, regulation, code, order, judgment, decree or judicial or agency interpretation, policy or guidance relating to pollution or protection of the environment, health, safety or natural resources, including, without limitation, those relating to the use, handling, transportation, treatment, storage, disposal, release or discharge of Hazardous Materials.

"Environmental Permit" means any permit, approval, identification number, license or other authorization required under any Environmental Law.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended from time to time, and the regulations promulgated and rulings issued thereunder.

"ERISA Affiliate" means any Person that for purposes of Title IV of ERISA is a member of the Borrower's controlled group, or under common control with the Borrower, within the meaning of Section 414 of the Internal Revenue Code.

"ERISA Event" means (a) (i) the occurrence of a reportable event, within the meaning of Section 4043 of ERISA, with respect to any Plan unless the 30-day notice requirement with respect to such event has been waived by the PBGC, or (ii) the requirements of subsection (1) of Section 4043(b) of ERISA (without regard to subsection (2) of such Section) are met with respect to a contributing sponsor, as defined in Section 4001(a)(13) of ERISA, of a Plan, and an event described in paragraph (9), (10), (11), (12) or (13) of Section 4043(c) of ERISA is reasonably expected to occur with respect to such Plan within the following 30 days (unless the 30-day notice requirement with respect to such event has been waived by the PBGC); (b) the application for a minimum funding waiver with respect to a Plan; (c) the provision by the administrator of any Plan of a notice of intent to terminate such Plan pursuant to Section 4041(a)(2) of ERISA (including any such notice with respect to a plan amendment referred to in Section 4041(e) of ERISA); (d) the cessation of operations at a facility of the Borrower or any ERISA Affiliate in the circumstances described in Section 4062(e) of ERISA; (e) the withdrawal by the Borrower or any ERISA Affiliate from a Multiple Employer Plan during a plan year for which it was a substantial employer, as defined in Section 4001(a)(2) of ERISA; (f) the conditions for the imposition of a lien under Section 303(k) of ERISA shall have been met with respect to any Plan; or (g) a determination is made that any Plan is in "at risk" status (within the meaning of Section 303 of ERISA); or (h) the institution by the PBGC of proceedings to terminate a Plan pursuant to Section 4042 of ERISA, or the occurrence of any event or condition described in Section 4042 of ERISA that constitutes grounds for the termination of, or the appointment of a trustee to administer, a Plan; provided, however, that no event described in (c), (d) or (e) shall be an ERISA Event if no later than 10 days prior to such event the Borrower has provided the Agent with the information that would be required to be furnished to the PBGC pursuant to Section 4041(b)(2)(A) of ERISA and such information demonstrates to the reasonable satisfaction of the Agent that if the relevant Plan were terminated as of the date of such event such termination would be eligible to be treated as a standard termination under Section 4041(b) of ERISA.

"Eurocurrency Liabilities" has the meaning assigned to that term in Regulation D of the Board of Governors of the Federal Reserve System, as in effect from time to time.

"Eurodollar Lending Office" means, with respect to any Lender, the office of such Lender specified as its "Eurodollar Lending Office" in its Administrative Questionnaire delivered to the Agent, or such other office, branch or Affiliate of such Lender as such Lender may from time to time specify in writing to the Borrower and the Agent.

"Eurodollar Rate" means, for any Interest Period for each Eurodollar Rate Advance comprising part of the same Borrowing, an interest rate per annum equal to the rate per annum (not less than 0.0%) obtained by dividing (a) the rate per annum (rounded upward to the nearest whole multiple of 1/100 of 1% per annum) appearing on the applicable Bloomberg page as the London interbank offered rate for deposits in Dollars at approximately 11:00 A.M. (London time) two Business Days prior to the first day of such Interest Period for a term comparable to such Interest Period by (b) a percentage equal to 100% minus the Eurodollar Rate Reserve Percentage for such Interest Period; provided that, if the Eurodollar Rate shall be less than zero, such rate shall be deemed zero for purposes of this Agreement.

"Eurodollar Rate Advance" means an Advance that bears interest as provided in Section 2.07(a)(ii).

"Eurodollar Rate Reserve Percentage" for any Interest Period for all Eurodollar Rate Advances comprising part of the same Borrowing means the reserve percentage applicable two Business Days before the first day of such Interest Period under regulations issued from time to time by the Board of Governors of the Federal Reserve System (or any successor) for determining the maximum reserve requirement (including, without limitation, any emergency, supplemental or other marginal reserve requirement) for a member bank of the Federal Reserve System in New York City with respect to liabilities or assets consisting of or including Eurocurrency Liabilities (or with respect to any other category of liabilities that includes deposits by reference to which the interest rate on Eurodollar Rate Advances is determined) having a term equal to such Interest Period.

"Events of Default" has the meaning specified in Section 6.01.

"FATCA" means Sections 1471 through 1474 of the Internal Revenue Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Internal Revenue Code, any published intergovernmental agreement entered into in connection with the implementation of such Sections of the Internal Revenue Code and any fiscal or regulatory legislation, rules or practices adopted pursuant to such published intergovernmental agreements.

"Federal Funds Rate" means, for any period, a fluctuating interest rate per annum equal for each day during such period to the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System, as published for such day (or, if such day is not a Business Day, for the next preceding Business Day) by the Federal Reserve Bank of New York, or, if such rate is not so published for any day that is a Business Day, the average of the quotations for such day on such transactions received by the Agent from three Federal funds brokers of recognized standing selected by it.

"Foreign Lender" means any Lender that is organized under the laws of a jurisdiction other than the United States. For purposes of this definition, the United States of America, each State thereof and the District of Columbia shall be deemed to constitute a single jurisdiction.

"GAAP" has the meaning specified in Section 1.03.

"Hazardous Materials" means (a) petroleum and petroleum products, byproducts or breakdown products, radioactive materials, asbestos-containing materials, polychlorinated biphenyls and radon gas and (b) any other chemicals, materials or substances designated, classified or regulated as hazardous or toxic or as a pollutant or contaminant under any Environmental Law.

"Hedge Agreement" means any agreement with respect to any swap, forward, future or derivative transaction or option or similar agreement involving, or settled by reference to, one or more rates, currencies, commodities, equity or debt instruments or securities, or economic, financial or pricing indices or measures of economic, financial or pricing risk or value or any similar transaction or any combination of these transactions; provided that no phantom stock or similar plan providing for payments only on account of services provided by current or former directors, officers, employees or consultants of the Borrower or the Subsidiaries shall be a Hedge Agreement; and provided, further, that no call-spread transaction in connection with the issuance of any convertible securities shall be a Hedge Agreement.

"Information" has the meaning specified in Section 8.08.

"Interest Period" means, for each Eurodollar Rate Advance comprising part of the same Borrowing, the period commencing on the date of such Eurodollar Rate Advance or the date of the Conversion of any Base Rate Advance into such Eurodollar Rate Advance and ending on the last day of the period selected by the Borrower pursuant to the provisions below and, thereafter, each subsequent period commencing on the last day of the immediately preceding Interest Period and ending on the last day of the period selected by the Borrower pursuant to the provisions below. The duration of each such Interest Period shall be one, two, three or six months, and subject to clause (c) of this definition, twelve months, as the Borrower may, upon notice received by the Agent not later than 11:00 A.M. (New York City time) on the third Business Day prior to the first day of such Interest Period, select; provided, however, that:

(a) the Borrower may not select any Interest Period that ends after the Maturity Date;

(b) Interest Periods commencing on the same date for Eurodollar Rate Advances comprising part of the same Borrowing shall be of the same duration;

(c) in the case of any Borrowing, the Borrower shall not be entitled to select an Interest Period having duration of twelve months unless, by 2:00 P.M. (New York City time) on the third Business Day prior to the first day of such Interest Period, each Lender notifies the Agent that such Lender will be providing funding for such Borrowing with such Interest Period (the failure of any Lender to so respond by such time being deemed for all purposes of this Agreement as an objection by such Lender to the requested duration of such Interest Period); provided that, if any or all of the Lenders object to the requested duration of such Interest Period, the duration of the Interest Period for such Borrowing shall be one, two, three or six months, as specified by the Borrower in the applicable Notice of Borrowing as the desired alternative to an Interest Period of twelve months;

(d) whenever the last day of any Interest Period would otherwise occur on a day other than a Business Day, the last day of such Interest Period shall be extended to occur on the next succeeding Business Day, provided, however, that, if such extension would cause the last day of such Interest Period to occur in the next following calendar month, the last day of such Interest Period shall occur on the next preceding Business Day; and

(e) whenever the first day of any Interest Period occurs on a day of an initial calendar month for which there is no numerically corresponding day in the calendar month that succeeds such initial calendar month by the number of months in such Interest Period, such Interest Period shall end on the last Business Day of such succeeding calendar month.

"Internal Revenue Code" means the Internal Revenue Code of 1986, as amended from time to time, and the regulations promulgated and rulings issued thereunder.

"Lender Insolvency Event" means that (a) a Lender or its Parent Company is insolvent, or is generally unable to pay its debts as they become due, or admits in writing its inability to pay its debts as they become due, or makes a general assignment for the benefit of its creditors, or (b) such Lender or its Parent Company is, other than solely via an Undisclosed Administration, the subject of a bankruptcy, insolvency, liquidation or similar proceeding or reorganization, or a receiver, trustee, conservator, intervenor or sequestrator or the like has been appointed for such Lender or its Parent Company, or such Lender or its Parent Company has taken any action in furtherance of or indicating its consent to or acquiescence in any such proceeding or appointment.

"Lenders" means the Banks and each Eligible Assignee that shall become a party hereto pursuant to Section 8.07.

"Lien" means any lien, security interest or other charge or encumbrance of any kind, or any other type of preferential arrangement, including, without limitation, the lien or retained security title of a conditional vendor and any easement, right of way or other encumbrance on title to real property.

"Material Adverse Change" means any material adverse change in the business, condition (financial or otherwise) or operations of the Borrower and its Subsidiaries taken as a whole.

“Material Adverse Effect” means a material adverse effect on (a) the business, condition (financial or otherwise) or operations of the Borrower and its Subsidiaries taken as a whole, (b) the rights and remedies of the Agent or any Lender under this Agreement or any Note or (c) the ability of the Borrower to perform its obligations under this Agreement or any Note.

“Material Subsidiary” of the Borrower means, at any time, any Subsidiary of the Borrower having (a) assets with a value of not less than 2% of the total value of the assets of the Borrower and its Subsidiaries, taken as a whole or (b) Consolidated revenues not less than 2% of the Consolidated revenues of the Borrower and its Subsidiaries, taken as a whole.

“Maturity Date” means April 20, 2023.

“Moody’s” means Moody’s Investors Service, Inc.

“Multiemployer Plan” means a multiemployer plan, as defined in Section 4001(a)(3) of ERISA, to which the Borrower or any ERISA Affiliate is making or accruing an obligation to make contributions, or has within any of the preceding five plan years made or accrued an obligation to make contributions.

“Multiple Employer Plan” means a single employer plan, as defined in Section 4001(a)(15) of ERISA, that (a) is maintained for employees of the Borrower or any ERISA Affiliate and at least one Person other than the Borrower and the ERISA Affiliates or (b) was so maintained and in respect of which the Borrower or any ERISA Affiliate could have liability under Section 4064 or 4069 of ERISA in the event such plan has been or were to be terminated.

“Non-Defaulting Lender” means, at any time, a Lender that is not a Defaulting Lender.

“Note” means a promissory note of the Borrower payable to the order of any Lender, delivered pursuant to a request made under Section 2.16 in substantially the form of Exhibit A hereto, evidencing the aggregate indebtedness of the Borrower to such Lender resulting from the Advances made by such Lender.

“Notice of Borrowing” has the meaning specified in Section 2.02(a).

“Parent Company” means, with respect to a Lender, the bank holding company (as defined in Federal Reserve Board Regulation Y), if any, of such Lender, or if such Lender does not have a bank holding company, then any corporation, association, partnership or other business entity owning, beneficially or of record, directly or indirectly, a majority of the shares (or equivalent evidence of beneficial and economic ownership) of such Lender.

“Participant” has the meaning specified in Section 8.07(d).

“Participant Register” has the meaning specified in Section 8.07(d).

“Patriot Act” has the meaning specified in Section 8.15.

“PBGC” means the Pension Benefit Guaranty Corporation (or any successor).

“Permitted Liens” means (a) such of the following as to which no enforcement, collection, execution, levy or foreclosure proceeding shall have been commenced and which have not been stayed within 30 days from the entry thereof: (i) Liens for taxes, assessments and governmental charges or levies to the extent not yet due and payable or not required to be paid under Section 5.01(b); and (ii) pledges or deposits to secure obligations under workers' compensation laws, unemployment insurance, social security or other laws or similar legislation or to secure public or statutory obligations; (b) Liens imposed by law, such as materialmen's, mechanics', carriers', workmen's and repairmen's Liens and other similar Liens arising in the ordinary course of business securing obligations that are not overdue for a period of more than 30 days (and, if overdue by more than 30 days, are being contested in good faith and by proper proceedings and as to which appropriate reserves are being maintained) as to which no enforcement, collection, execution, levy or foreclosure proceeding shall have been concluded in favor of the secured party, (c) easements, rights of way and other encumbrances on title to real property that do not render title to the property encumbered thereby unmarketable or materially adversely affect the use of such property for its present purposes and (d) judgment liens in respect of judgments that do not constitute an Event of Default under Section 6.01(f).

"Person" means an individual, partnership, corporation (including a business trust), joint stock company, trust, unincorporated association, joint venture, limited liability company or other entity, or a government or any political subdivision or agency thereof.

"Plan" means a Single Employer Plan or a Multiple Employer Plan.

"Pro Rata Share" of any amount means, with respect to any Lender at any time, the product of such amount times a fraction the numerator of which is the aggregate principal amount of the Advances owing to such Lender at such time and the denominator of which is the aggregate principal amount of all Advances outstanding at such time.

"Public Debt Rating" means, as of any date, the rating that has been most recently announced by either S&P or Moody's, as the case may be, for any class of non-credit enhanced long-term senior unsecured debt issued by the Borrower. For purposes of the foregoing, (a) if only one of S&P and Moody's shall have in effect a Public Debt Rating, the Applicable Margin shall be determined by reference to the available rating; (b) if neither S&P nor Moody's shall have in effect a Public Debt Rating, the Applicable Margin will be set in accordance with Level 5 under the definition of "Applicable Margin"; (c) if the ratings established by S&P and Moody's shall fall within different levels, the Applicable Margin shall be based upon the higher rating unless such ratings differ by two or more levels, in which case the applicable level will be deemed to be one level below the higher of such levels; (d) if any rating established by S&P or Moody's shall be changed, such change shall be effective as of the date on which such change is first announced publicly by the rating agency making such change; and (e) if S&P or Moody's shall change the basis on which ratings are established, each reference to the Public Debt Rating announced by S&P or Moody's, as the case may be, shall refer to the then equivalent rating by S&P or Moody's, as the case may be.

"Register" has the meaning specified in Section 8.07(c).

"Related Parties" means, with respect to any Person, such Person's Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person's Affiliates.

"Required Lenders" means at any time Lenders owed over 50% of the then aggregate unpaid principal amount of the Advances owing to Lenders, or, if no such principal amount is then outstanding, Lenders having at least a majority in interest of the Commitments.

"Responsible Officer" means the chief executive officer, president, chief financial officer, treasurer, assistant treasurer or controller of the Borrower and, solely for purposes of notices given pursuant to Article II, any other officer or employee of the Borrower so designated by any of the foregoing officers in a notice to the Agent or any other officer or employee of the Borrower designated in or pursuant to an agreement between the Borrower and the Agent. Any document delivered hereunder that is signed by a Responsible Officer of the Borrower shall be conclusively presumed to have been authorized by all necessary corporate, partnership and/or other action on the part of the Borrower and such Responsible Officer shall be conclusively presumed to have acted on behalf of the Borrower.

"S&P" means S&P Global Ratings, a Standard and Poor's Financial Services LLC business.

"Sanctioned Country" means, at any time, a country, region or territory which is the subject or target of any comprehensive territorial Sanctions.

"Sanctioned Person" means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by the U.S. government, including the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State, or by the United Nations Security Council, the European Union, or any European Union member state or Her Majesty's Treasury of the United Kingdom, (b) any Person operating, organized or resident in a Sanctioned Country or (c) any Person owned 50% or more, or controlled, by any such Person or Persons described in the foregoing clauses (a) or (b).

"Sanctions" means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by (a) the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, or (b) the United Nations Security Council, the European Union, any European Union member state or Her Majesty's Treasury of the United Kingdom.

"Single Employer Plan" means a single employer plan, as defined in Section 4001(a)(15) of ERISA, that (a) is maintained for employees of the Borrower or any ERISA Affiliate and no Person other than the Borrower and the ERISA Affiliates or (b) was so maintained and in respect of which the Borrower or any ERISA Affiliate could have liability under Section 4069 of ERISA in the event such plan has been or were to be terminated.

"Subordinated Debt" means Debt that is subordinated by its terms in right of payment to amounts owing under this Agreement.

"Subsidiary" of any Person means any corporation, partnership, joint venture, limited liability company, trust or estate of which (or in which) more than 50% of (a) the issued and outstanding capital stock having ordinary voting power to elect a majority of the Board of Directors of such corporation (irrespective of whether at the time capital stock of any other class or classes of such corporation shall or might have voting power upon the occurrence of any contingency), (b) the interest in the capital or profits of such limited liability company, partnership or joint venture or (c) the beneficial interest in such trust or estate is at the time directly or indirectly owned or controlled by such Person, by such Person and one or more of its other Subsidiaries or by one or more of such Person's other Subsidiaries.

"Type" refers to the distinction between Base Rate Advances and Eurodollar Rate Advances.

"Undisclosed Administration" means, in relation to a Lender, the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official by a supervisory authority or regulator under the laws of the country where such Lender is subject to home jurisdiction supervision if, and only for so long as, applicable law prohibits such appointment from being publicly disclosed and provided that such appointment shall not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such supervisory authority or regulator) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender.

"Voting Stock" means capital stock issued by a corporation, or equivalent interests in any other Person, the holders of which are ordinarily, in the absence of contingencies, entitled to vote for the election of directors (or persons performing similar functions) of such Person, even if the right so to vote has been suspended by the happening of such a contingency.

SECTION 1.02 Computation of Time Periods. In this Agreement in the computation of periods of time from a specified date to a later specified date, the word "from" means "from and including" and the words "to" and "until" each mean "to but excluding".

SECTION 1.03 Accounting Terms. All accounting terms not specifically defined herein shall be construed in accordance with generally accepted accounting principles consistent with those applied in the preparation of the financial statements referred to in Section 4.01(e) ("GAAP"). If at any time any change in generally accepted accounting principles would affect the computation of any financial ratio or requirement set forth herein, and either the Borrower or the Required Lenders shall so request, the Agent, the Lenders and the Borrower shall negotiate in good faith to amend such ratio or requirement to preserve the original intent thereof in light of such change in generally accepted accounting principles (subject to the approval of the Borrower and the Required Lenders); provided that, until so amended, (i) such ratio or requirement shall continue to be computed in accordance with GAAP and (ii) the Borrower shall provide to the Agent and the Lenders financial statements and other documents required under this Agreement or as reasonably requested hereunder setting forth a reconciliation between calculations of such ratio or requirement made before and after giving effect to such change in generally accepted accounting principles.

ARTICLE II

AMOUNTS AND TERMS OF THE ADVANCES

SECTION 2.01 The Advances . Each Lender party to the Existing Credit Agreement has made an Advance to the Borrower in accordance with the terms of the Existing Credit Agreement. Amounts borrowed under this Section 2.01(a) and repaid or prepaid may not be reborrowed.

SECTION 2.02 Making the Advances. (a) The Borrowing shall be made on notice, given not later than (x) 11:00 A.M. (New York City time) on the third Business Day prior to the date of the proposed Borrowing in the case of a Borrowing consisting of Eurodollar Rate Advances or (y) 11:00 A.M. (New York City time) on the date of the proposed Borrowing in the case of a Borrowing consisting of Base Rate Advances, by a Responsible Officer of the Borrower to the Agent, which shall give to each Lender prompt notice thereof by telecopier. Each such notice of a Borrowing (a "Notice of Borrowing") shall be by (x) telephone and confirmed immediately in writing, or (y) delivery of a notice in substantially the form of Exhibit B hereto or such other form as may be approved by the Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Agent), specifying therein the requested (i) date of such Borrowing, (ii) Type of Advances comprising such Borrowing, (iii) aggregate amount of such Borrowing, and (iv) in the case of a Borrowing consisting of Eurodollar Rate Advances, initial Interest Period for each such Advance. Each Lender shall, before 1:00 P.M. (New York City time) on the date of such Borrowing make available for the account of its Applicable Lending Office to the Agent at the applicable Agent's Account, in same day funds, such Lender's ratable portion of such Borrowing. After the Agent's receipt of such funds and upon fulfillment of the applicable conditions set forth in Section 3.02, the Agent will make such funds available to the Borrower in same day funds on the date of such Borrowing at the Agent's address referred to in Section 8.02.

(a) Anything in subsection (a) above to the contrary notwithstanding, the Eurodollar Rate Advances may not be outstanding as part of more than ten separate Borrowings.

(b) Each Notice of Borrowing shall be irrevocable and binding on the Borrower. In the case of any Borrowing that the related Notice of Borrowing specifies is to be comprised of Eurodollar Rate Advances, the Borrower shall indemnify each Lender against any loss, cost or expense incurred by such Lender as a result of any failure to fulfill on or before the date specified in such Notice of Borrowing for such Borrowing the applicable conditions set forth in Article III, including, without limitation, any loss (excluding loss of anticipated profits), cost or expense incurred by reason of the liquidation or reemployment of deposits or other funds acquired by such Lender to fund the Advance to be made by such Lender as part of such Borrowing when such Advance, as a result of such failure, is not made on such date.

(c) Unless the Agent shall have received notice from a Lender prior to the time of any Borrowing that such Lender will not make available to the Agent such Lender's ratable portion of such Borrowing, the Agent may assume that such Lender has made such portion available to the Agent on the date of such Borrowing in accordance with subsection (a) of this Section 2.02 and the Agent may, in reliance upon such assumption, make available to the Borrower on such date a corresponding amount. If and to the extent that such Lender shall not have so made such ratable portion available to the Agent, such Lender and the Borrower severally agree to repay to the Agent forthwith on demand such corresponding amount together with interest thereon, for each day from the date such amount is made available to the Borrower until the date such amount is repaid to the Agent, at (i) in the case of the Borrower, the higher of (A) the interest rate applicable at the time to Advances comprising such Borrowing and (B) the cost of funds incurred by the Agent in respect of such amount and (ii) in the case of such Lender, the Federal Funds Rate. If such Lender shall repay to the Agent such corresponding amount, such amount so repaid shall constitute such Lender's Advance as part of such Borrowing for purposes of this Agreement.

(d) The failure of any Lender to make the Advance to be made by it as part of any Borrowing shall not relieve any other Lender of its obligation, if any, hereunder to make its Advance on the date of such Borrowing, but no Lender shall be responsible for the failure of any other Lender to make the Advance to be made by such other Lender on the date of any Borrowing.

SECTION 2.03 [Reserved].

SECTION 2.04 [Reserved].

SECTION 2.05 [Reserved].

SECTION 2.06 Repayment of Advances. The Borrower shall repay to the Agent for the ratable account of the Lenders (a) in equal consecutive quarterly installments commencing on July 1, 2018 and on the first Business Day of each January, April, July and October thereafter through January 1, 2021, an amount equal to 1.25% of the stated principal amount of the Advances funded by the Lenders on the Effective Date, (b) in equal consecutive quarterly installments commencing on April 1, 2021 and on the first Business Day of each January, April, July and October thereafter through January 1, 2022, an amount equal to 2.50% of the stated principal amount of the Advances funded by the Lenders on the Effective Date and (c) on the Maturity Date, an amount equal to the aggregate principal amount of all such Advances outstanding on such date.

SECTION 2.07 Interest on Advances. (a)Scheduled Interest. The Borrower shall pay interest on the unpaid principal amount of each Advance owing to each Lender from the date of such Advance until such principal amount shall be paid in full, at the following rates per annum:

(i) Base Rate Advances. During such periods as such Advance is a Base Rate Advance, a rate per annum equal at all times to the sum of (x) the Base Rate in effect from time to time plus (y) the Applicable Margin in effect from time to time, payable in arrears quarterly on the first day of each January, April, July and October during such periods and on the date such Base Rate Advance shall be Converted or paid in full.

(ii) Eurodollar Rate Advances. During such periods as such Advance is a Eurodollar Rate Advance, a rate per annum equal at all times during each Interest Period for such Advance to the sum of (x) the Eurodollar Rate for such Interest Period for such Advance plus (y) the Applicable Margin in effect from time to time, payable in arrears on the last day of such Interest Period and, if such Interest Period has a duration of more than three months, on each day that occurs during such Interest Period every three months from the first day of such Interest Period and on the date such Eurodollar Rate Advance shall be Converted or paid in full.

(b) Default Interest. Upon the occurrence and during the continuance of an Event of Default under Section 6.01(a), the Agent may, and upon the request of the Required Lenders shall, require the Borrower to pay interest ("Default Interest") on (i) the unpaid principal amount of each Advance owing to each Lender, payable in arrears on the dates referred to in clause (a)(i) or (a)(ii) above, at a rate per annum equal at all times to 2% per annum above the rate per annum required to be paid on such Advance pursuant to clause (a)(i) or (a)(ii) above and (ii) to the fullest extent permitted by law, the amount of any interest or other amount payable hereunder that is not paid when due, from the date such amount shall be due until such amount shall be paid in full, payable in arrears on the date such amount shall be paid in full and on demand, at a rate per annum equal at all times to 2% per annum above the rate per annum required to be paid on Base Rate Advances pursuant to clause (a)(i) above; provided, however, that following acceleration of the Advances pursuant to Section 6.01, Default Interest shall accrue and be payable hereunder whether or not previously required by the Agent.

SECTION 2.08 Interest Rate Determination. (a) The Agent shall give prompt notice to the Borrower and the Lenders of the applicable interest rate determined by the Agent for purposes of Section 2.07(a)(i) or (ii).

(a) If, with respect to any Eurodollar Rate Advances, the Required Lenders notify the Agent that (i) they are unable to obtain matching deposits in the London inter-bank market at or about 11:00 A.M. (London time) on the second Business Day before the making of a Borrowing in sufficient amounts to fund their respective Advances as a part of such Borrowing during its Interest Period or (ii) the Eurodollar Rate for any Interest Period for such Advances will not adequately reflect the cost to such Required Lenders of making, funding or maintaining their respective Eurodollar Rate Advances for such Interest Period, the Agent shall forthwith so notify the Borrower and the Lenders, whereupon (A) the Borrower will, on the last day of the then existing Interest Period therefor, either (x) prepay such Advances or (y) Convert such Advances into Base Rate Advances and (B) the obligation of the Lenders to make, or to Convert Advances into, Eurodollar Rate Advances shall be suspended until the Agent shall notify the Borrower and the Lenders that the circumstances causing such suspension no longer exist.

(b) If the Borrower shall fail to select the duration of any Interest Period for any Eurodollar Rate Advances in accordance with the provisions contained in the definition of "Interest Period" in Section 1.01, the Agent will forthwith so notify the Borrower and the Lenders and such Advances will automatically, on the last day of the then existing Interest Period therefor, Convert into Base Rate Advances.

(c) On the date on which the aggregate unpaid principal amount of Eurodollar Rate Advances comprising any Borrowing shall be reduced, by payment or prepayment or otherwise, to less than $10,000,000, such Advances shall automatically Convert into Base Rate Advances.

(d) Upon the occurrence and during the continuance of any Event of Default under Section 6.01(a), (i) each Eurodollar Rate Advance will automatically, on the last day of the then existing Interest Period therefor be Converted into Base Rate Advances and (ii) the obligation of the Lenders to make, or to Convert Advances into, Eurodollar Rate Advances shall be suspended.

(e) If the applicable Bloomberg page is unavailable,

(i) the Agent shall forthwith notify the Borrower and the Lenders that the interest rate cannot be determined for such Eurodollar Rate Advances,

(ii) with respect to Eurodollar Rate Advances, each such Advance will automatically, on the last day of the then existing Interest Period therefor, Convert into a Base Rate Advance (or if such Advance is then a Base Rate Advance, will continue as a Base Rate Advance), and

(iii) the obligation of the Lenders to make Eurodollar Rate Advances or to Convert Advances into Eurodollar Rate Advances shall be suspended until the Agent shall notify the Borrower and the Lenders that the circumstances causing such suspension no longer exist.

(f) Notwithstanding anything to the contrary in this Agreement, if the Agent determines (which determination shall be conclusive absent manifest error), or the Borrower or Required Lenders notify the Agent (with, in the case of the Required Lenders, a copy to Borrower) that the Borrower or Required Lenders (as applicable) have determined, that:

(i) adequate and reasonable means do not exist for ascertaining the Eurodollar Rate for any requested Interest Period, because the LIBOR Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(ii) the administrator of the LIBOR Screen Rate or a governmental authority having jurisdiction over the Agent has made a public statement identifying a specific date after which the Eurodollar Rate or the LIBOR Screen Rate shall no longer be made available, or used for determining the interest rate of loans (such specific date, the "Scheduled Unavailability Date"), or

(iii) syndicated loans currently being executed, or that include language similar to that contained in this Section, are being executed or amended (as applicable) to incorporate or adopt a new benchmark interest rate to replace the Eurodollar Rate,

then, reasonably promptly after such determination by the Agent or receipt by the Agent of such notice, as applicable, the Agent and the Borrower may amend this Agreement to replace the Eurodollar Rate with an alternate benchmark rate (including any mathematical or other adjustments to the benchmark (if any) incorporated therein), giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated syndicated credit facilities for such alternative benchmarks (any such proposed rate, a "LIBOR Successor Rate"), together with any proposed LIBOR Successor Rate Conforming Changes (as defined below) and any such amendment shall become effective at 5:00 p.m. (New York time) on the fifth Business Day after the Agent shall have posted such proposed amendment to all Lenders and the Borrower unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Agent written notice that such Required Lenders do not accept such amendment.

If no LIBOR Successor Rate has been determined and the circumstances under clause (i) above exist or the Scheduled Unavailability Date has occurred (as applicable), the Agent will promptly so notify the Borrower and each Lender. Thereafter, (x) the obligation of the Lenders to make or maintain Eurodollar Rate Advances shall be suspended, (to the extent of the affected Eurodollar Rate Advances or Interest Periods), and (y) the One Month LIBOR component shall no longer be utilized in determining the Base Rate. Upon receipt of such notice, the Borrower may revoke any pending request for a Borrowing of, conversion to or continuation of Eurodollar Rate Advances (to the extent of the affected Eurodollar Rate Advances or Interest Periods) or, failing that, will be deemed to have converted such request into a request for a Borrowing of, conversion to or continuation of Base Rate Advances (subject to the foregoing clause (y)) in the amount specified therein.

Notwithstanding anything else herein, any definition of LIBOR Successor Rate shall provide that in no event shall such LIBOR Successor Rate be less than zero for purposes of this Agreement.

As used above:

"LIBOR Screen Rate" means the quote on the applicable screen page the Agent designates to determine the Eurodollar Rate (or such other commercially available source providing such quotations as may be designated by the Agent from time to time).

"LIBOR Successor Rate Conforming Changes" means, with respect to any proposed LIBOR Successor Rate, any conforming changes to the definition of Base Rate, Interest Period, timing and frequency of determining rates and making payments of interest and other administrative matters as may be appropriate, in the reasonable discretion of the Agent, to reflect the adoption of such LIBOR Successor Rate and to permit the administration thereof by the Agent in a manner substantially consistent with market practice (or, if the Agent determines that adoption of any portion of such market practice is not administratively feasible or that no market practice for the administration of such LIBOR Successor Rate exists, in such other manner of administration as the Agent reasonably determines in consultation with the Borrower).

SECTION 2.09 Optional Conversion of Advances. The Borrower may on any Business Day, upon notice given to the Agent not later than 11:00 A.M. (New York City time) on the third Business Day prior to the date of the proposed Conversion and subject to the provisions of Sections 2.08 and 2.12, Convert all Advances of one Type comprising the same Borrowing into Advances of the other Type; provided, however, that any Conversion of Eurodollar Rate Advances into Base Rate Advances shall be made only on the last day of an Interest Period for such Eurodollar Rate Advances, any Conversion of Base Rate Advances into Eurodollar Rate Advances shall be in an amount not less than $10,000,000 and no Conversion of any Advances shall result in more separate Borrowings than permitted under Section 2.02(b). Each such notice of a Conversion shall, within the restrictions specified above, specify (i) the date of such Conversion, (ii) the Advances to be Converted, and (iii) if such Conversion is into Eurodollar Rate Advances, the duration of the initial Interest Period for each such Advance. Each notice of Conversion shall be irrevocable and binding on the Borrower.

SECTION 2.10 Optional Prepayments of Advances. The Borrower may, upon notice at least two Business Days' prior to the date of such prepayment, in the case of Eurodollar Rate Advances, and not later than 11:00 A.M. (New York City time) on the date of such prepayment, in the case of Base Rate Advances, to the Agent stating the proposed date and aggregate principal amount of the prepayment, and if such notice is given the Borrower shall, prepay the outstanding principal amount of the Advances comprising part of the same Borrowing in whole or ratably in part without premium or penalty, together with accrued interest to the date of such prepayment on the principal amount prepaid; provided, however, that (x) each partial prepayment shall be in an aggregate principal amount of not less than $10,000,000 and (y) in the event of any such prepayment of a Eurodollar Rate Advance, the Borrower shall be obligated to reimburse the Lenders in respect thereof pursuant to Section 8.04(c).

SECTION 2.11 Increased Costs. (a) If, due to either (i) the introduction of or any change in or in the interpretation of any law or regulation after the date hereof or (ii) the compliance with any guideline or European Union or similar monetary or multinational authority (whether or not having the force of law) promulgated after the date hereof, there shall be any increase in the cost to any Lender of agreeing to make or making, funding or maintaining Eurodollar Rate Advances (excluding for purposes of this Section 2.11 any such increased costs resulting from (i) Taxes or Other Taxes (as to which Section 2.14 shall govern), (ii) changes in the basis of taxation of overall net income or overall gross income by the United States or by the foreign jurisdiction or state under the laws of which such Lender is organized or has its Applicable Lending Office or any political subdivision thereof and (iii) FATCA), then the Borrower shall from time to time, within five Business Days after demand by such Lender (with a copy of such demand to the Agent), pay to the Agent for the account of such Lender additional amounts sufficient to compensate such Lender for such increased cost; provided, however, that before making any such demand, each Lender agrees to use reasonable efforts (consistent with its internal policy and legal and regulatory restrictions) to designate a different Applicable Lending Office if the making of such a designation would avoid the need for, or reduce the amount of, such increased cost and would not, in the reasonable judgment of such Lender, be otherwise disadvantageous to such Lender. A certificate as to the amount of such increased cost, submitted to the Borrower and the Agent by such Lender, shall be conclusive and binding for all purposes, absent manifest error.

(a) If any Lender determines that compliance with any law or regulation or any guideline or request from any central bank or other governmental authority (whether or not having the force of law) promulgated after the Effective Date affects or would affect the amount of capital or liquidity required or expected to be maintained by such Lender or any corporation controlling such Lender and that the amount of such capital or liquidity is increased by or based upon the existence of such Lender's commitment to lend hereunder and other commitments of this type, then, within five Business Days after demand by such Lender (with a copy of such demand to the Agent), the Borrower shall pay to the Agent for the account of such Lender, from time to time as specified by such Lender, additional amounts sufficient to compensate such Lender or such corporation in the light of such circumstances, to the extent that such Lender reasonably determines such increase in capital or liquidity to be allocable to the existence of such Lender's commitment to lend hereunder. A certificate as to such amounts submitted to the Borrower and the Agent by such Lender shall be conclusive and binding for all purposes, absent manifest error.

(b) Failure or delay on the part of any Lender to demand compensation pursuant to this Section shall not constitute a waiver of such Lender's right to demand such compensation; provided that the Borrower shall not be required to compensate a Lender pursuant to this Section for any increased costs or reductions incurred more than six months prior to the date that such Lender notifies the Borrower of the circumstance giving rise to such increased costs or reductions and of such Lender's intention to claim compensation therefor; provided further that, if the circumstance giving rise to such increased costs or reductions is retroactive, then the six-month period referred to above shall be extended to include the period of retroactive effect thereof.

(c) For the avoidance of doubt and notwithstanding anything herein to the contrary, for the purposes of this Section 2.11, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, regulations, guidelines, interpretations or directives thereunder or issued in connection therewith (whether or not having the force of law) and (y) all requests, rules, regulations, guidelines, interpretations or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities (whether or not having the force of law), in case for this clause (y) pursuant to Basel III, shall in each case be deemed to be a change in law regardless of the date enacted, adopted, issued, promulgated or implemented.

SECTION 2.12 Illegality. Notwithstanding any other provision of this Agreement, if any Lender shall notify the Agent that the introduction of or any change in or in the interpretation of any law or regulation makes it unlawful, or any central bank or other governmental authority asserts that it is unlawful, for any Lender or its Eurodollar Lending Office to perform its obligations hereunder to make Eurodollar Rate Advances or to fund or maintain Eurodollar Rate Advances hereunder, (a) each Eurodollar Rate Advance will automatically be Converted into a Base Rate Advance and (b) the obligation of the Lenders to make Eurodollar Rate Advances or to Convert Advances into Eurodollar Rate Advances shall be suspended until the Agent shall notify the Borrower and the Lenders that the circumstances causing such suspension no longer exist; provided, however, that before making any such demand, each Lender agrees to use reasonable efforts (consistent with its internal policy and legal and regulatory restrictions) to designate a different Eurodollar Lending Office if the making of such a designation would allow such Lender or its Eurodollar Lending Office to continue to perform its obligations to make Eurodollar Rate Advances or to continue to fund or maintain Eurodollar Rate Advances and would not, in the judgment of such Lender, be otherwise disadvantageous to such Lender.

SECTION 2.13 Payments and Computations. (a) The Borrower shall make each payment hereunder, irrespective of any right of counterclaim or set- off, not later than 11:00 A.M. (New York City time) on the day when due in Dollars to the Agent at the applicable Agent's Account in same day funds. The Agent will promptly thereafter cause to be distributed like funds relating to the payment of principal or interest ratably (other than amounts payable pursuant to Section 2.11, 2.14 or 8.04(c)) to the Lenders for the account of their respective Applicable Lending Offices, and like funds relating to the payment of any other amount payable to any Lender to such Lender for the account of its Applicable Lending Office, in each case to be applied in accordance with the terms of this Agreement. Upon its acceptance of an Assignment and Assumption and recording of the information contained therein in the Register pursuant to Section 8.07(c), from and after the effective date specified in such Assignment and Assumption, the Agent shall make all payments hereunder and under any Notes in respect of the interest assigned thereby to the Lender assignee thereunder, and the parties to such Assignment and Assumption shall make all appropriate adjustments in such payments for periods prior to such effective date directly between themselves.

(a) The Borrower hereby authorizes each Lender, if and to the extent payment owed to such Lender is not made when due hereunder or under the Note held by such Lender, to charge from time to time against any or all of the Borrower's accounts with such Lender any amount so due.

(b) All computations of interest based on the Base Rate shall be made by the Agent on the basis of a year of 365 or 366 days, as the case may be, all computations of interest based on the Eurodollar Rate or the Federal Funds Rate shall be made by the Agent on the basis of a year of 360 days, in each case for the actual number of days (including the first day but excluding the last day) occurring in the period for which such interest is payable. Each determination by the Agent of an interest rate hereunder shall be conclusive and binding for all purposes, absent manifest error.

(c) Whenever any payment hereunder or under the Notes shall be stated to be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day, and such extension of time shall in such case be included in the computation of payment of interest; provided, however, that, if such extension would cause payment of interest on or principal of Eurodollar Rate Advances to be made in the next following calendar month, such payment shall be made on the next preceding Business Day.

(d) Unless the Agent shall have received notice from the Borrower prior to the date on which any payment is due to the Lenders hereunder that the Borrower will not make such payment in full, the Agent may assume that the Borrower has made such payment in full to the Agent on such date and the Agent may, in reliance upon such assumption, cause to be distributed to each Lender on such due date an amount equal to the amount then due such Lender. If and to the extent the Borrower shall not have so made such payment in full to the Agent, each Lender shall repay to the Agent forthwith on demand such amount distributed to such Lender together with interest thereon, for each day from the date such amount is distributed to such Lender until the date such Lender repays such amount to the Agent, at the Federal Funds Rate.

SECTION 2.14 Taxes. (a) Any and all payments by the Borrower to or for the account of any Lender or the Agent hereunder or under the Notes or any other documents to be delivered hereunder shall be made, in accordance with Section 2.13 or the applicable provisions of such other documents, free and clear of and without deduction for any and all present or future taxes, levies, imposts, deductions, charges or withholdings, and all liabilities with respect thereto, excluding (i) in the case of each Lender and the Agent, taxes imposed on its overall net income (including backup withholding taxes), and franchise taxes and branch profits taxes imposed on it, (x) by the jurisdiction under the laws of which such Lender or the Agent (as the case may be) is organized or any political subdivision thereof and, in the case of each Lender, taxes imposed on its overall net income (including backup withholding taxes), and franchise taxes imposed on it, by the jurisdiction of such Lender's Applicable Lending Office or any political subdivision thereof or (y) as the result of any other present or former connection between the Lender or Agent and the jurisdiction imposing such Tax (other than a connection arising from such Lender or Agent having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced this Agreement, the Notes or any other document, or sold or assigned an interest in this Agreement, the Notes or any other document and (ii) any United States withholding tax imposed under FATCA (all such non-excluded taxes, levies, imposts, deductions, charges, withholdings and liabilities in respect of payments hereunder or under the Notes being hereinafter referred to as "Taxes"). If the Borrower shall be required by law to deduct any Taxes from or in respect of any sum payable hereunder or under any Note or any other documents to be delivered hereunder to any Lender or the Agent, (i) the sum payable shall be increased as may be necessary so that after making all required deductions (including deductions applicable to additional sums payable under this Section 2.14) such Lender or the Agent (as the case may be) receives an amount equal to the sum it would have received had no such deductions been made, (ii) the Borrower shall make such deductions and (iii) the Borrower shall pay the full amount deducted to the relevant taxation authority or other authority in accordance with applicable law.

(a) In addition, the Borrower shall pay any present or future stamp or documentary taxes or any other excise or property taxes, charges or similar levies that arise from any payment made hereunder or under the Notes any other documents to be delivered hereunder or from the execution, delivery or registration of, performing under, or otherwise with respect to, this Agreement or the Notes or any other documents to be delivered hereunder (hereinafter referred to as "Other Taxes").

(b) The Borrower shall indemnify each Lender and the Agent for and hold it harmless against the full amount of Taxes or Other Taxes (including, without limitation, taxes of any kind imposed or asserted by any jurisdiction on amounts payable under this Section 2.14) imposed on or paid by such Lender or the Agent (as the case may be) and any liability (including penalties, interest and expenses) arising therefrom or with respect thereto. This indemnification shall be made within 30 days from the date such Lender or the Agent (as the case may be) makes written demand therefor.

(c) Within 30 days after the date of any payment of Taxes, the Borrower shall furnish to the Agent, at its address referred to in Section 8.02, the original or a certified copy of a receipt evidencing such payment to the extent such a receipt is issued therefor, or other written proof of payment thereof that is reasonably satisfactory to the Agent. In the case of any payment hereunder or under the Notes or any other documents to be delivered hereunder by or on behalf of the Borrower through an account or branch outside the United States or by or on behalf of the Borrower by a payor that is not a United States person, if the Borrower determines that no Taxes are payable in respect thereof, the Borrower shall furnish, or shall cause such payor to furnish, to the Agent, at such address, an opinion of counsel acceptable to the Agent stating that such payment is exempt from Taxes. For purposes of this subsection (d) and subsection (e), the terms "United States" and "United States person" shall have the meanings specified in Section 7701 of the Internal Revenue Code.

(d) (i)Any Lender that is a United States person shall deliver to the Borrower and the Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Agent), executed originals of Internal Revenue Service ("IRS") Form W-9 certifying that such Lender is exempt from United States federal backup withholding tax;

(i) Each Foreign Lender, on or prior to the date of its execution and delivery of this Agreement in the case of each Bank and on the date of the Assignment and Assumption pursuant to which it becomes a Lender in the case of each other Lender, and from time to time thereafter (but only so long as such Lender remains lawfully able to do so) as reasonably requested in writing by the Borrower, shall provide each of the Agent and the Borrower with two originals of whichever of the following is applicable, certifying that such Lender is exempt from or entitled to a reduced rate of United States withholding tax on payments pursuant to this Agreement or the Notes:

(A) IRS Form W-8BEN or W-8BEN-E claiming eligibility for benefits of an income tax treaty;

(B) IRS Form W-8ECI:

(C) to the extent a Foreign Lender is not the beneficial owner of payments received pursuant to this Agreement or the Notes, IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN, IRS Form W-8BEN-E or IRS Form W-9, and/or other certification documents from each beneficial owner, as applicable;

(D) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under section 881(c) of the Internal Revenue Code (1) a certificate to the effect that the Lender is not (a) a “bank” within the meaning of section 881(c)(3)(A) of the Internal Revenue Code, (b) a “10 percent shareholder” of the Borrower within the meaning of section 881(c)(3)(B) of the Internal Revenue Code, or (c) a “controlled foreign corporation” described in section 881(c)(3)(C) of the Internal Revenue Code and (ii) IRS Form W-8BEN or W-8BEN-E; or

(E) any other form prescribed by applicable law as a basis for claiming exemption from or a reduction in United States federal withholding Tax, together with such supplementary documentation as may be prescribe by applicable law to permit the Borrower or Agent to determine the withholding or deduction required to be made.

If the form provided by a Lender at the time such Lender first becomes a party to this Agreement indicates a United States interest withholding tax rate in excess of zero, withholding tax at such rate shall be considered excluded from Taxes unless and until such Lender provides the appropriate forms certifying that a lesser rate applies, whereupon withholding tax at such lesser rate only shall be considered excluded from Taxes for periods governed by such form; provided, however, that, if at the date of the Assignment and Assumption pursuant to which a Lender assignee becomes a party to this Agreement, the Lender assignor was entitled to payments under subsection (a) in respect of United States withholding tax with respect to interest paid at such date, then, to such extent, the term Taxes shall include (in addition to withholding taxes that may be imposed in the future or other amounts otherwise includable in Taxes) United States withholding tax, if any, applicable with respect to the Lender assignee on such date but only to the extent that the United States withholding tax rate applicable with respect to the Lender assignee does not exceed the rate applicable to the Lender assignor with respect to interest paid at the date of such Assignment and Assumption. If any form or document referred to in this subsection (e) requires the disclosure of information, other than information necessary to compute the tax payable and information required on the date hereof by Internal Revenue Service form W-9, W-8BEN, W-8BEN-E, W-8ECI or

W-8IMY (or in the case of a Lender assignee, other than the information required on such Internal Revenue Service forms or successor forms on the date of the Assignment and Assumption pursuant to which such Lender assignee became a party to this Agreement), that the Lender reasonably considers to be confidential, the Lender shall give notice thereof to the Borrower and shall not be obligated to include in such form or document such confidential information.

(ii) If a payment made to a Lender would be subject to United States federal withholding tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Internal Revenue Code, as applicable), such Lender shall deliver to the Borrower, at the time or times prescribed by law and at such time or times reasonably requested in writing by the Borrower, such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Internal Revenue Code) and such additional documentation reasonably requested in writing by the Borrower as may be necessary for the Borrower to comply with its obligations under FATCA, to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. For purposes of this Section 2.14(e)(iii) FATCA shall include amendments made to FATCA after the date of this Agreement.

(e) For any period with respect to which a Lender has failed to provide the Borrower with the appropriate form, certificate or other document described in Section 2.14(e) (other than if such failure is due to a change in law, or in the interpretation or application thereof, occurring subsequent to the date on which a form, certificate or other document originally was required to be provided), such Lender shall not be entitled to indemnification under Section 2.14(a) or (c) with respect to Taxes imposed by the United States by reason of such failure; provided, however, that should a Lender become subject to Taxes because of its failure to deliver a form, certificate or other document required hereunder, the Borrower shall take such steps as the Lender shall reasonably request to assist the Lender to recover such Taxes.

(f) Any Lender claiming any additional amounts payable pursuant to this Section 2.14 agrees to use reasonable efforts (consistent with its internal policy and legal and regulatory restrictions) to change the jurisdiction of its Eurodollar Lending Office if the making of such a change would avoid the need for, or reduce the amount of, any such additional amounts that may thereafter accrue and would not, in the reasonable judgment of such Lender, be otherwise disadvantageous to such Lender.

(g) Each Lender (and the Agent with respect to payments to the Agent for its own account) agrees that (i) it will take all reasonable actions by all usual means to maintain all exemptions, if any, available to it from the United States withholding taxes (whether available by treaty, existing administrative waiver, by virtue of the location of any Lender's applicable Lending Office or otherwise) and (ii) it will otherwise reasonably cooperate with the Borrower to minimize amounts payable by the Borrower under this Section 2.14; provided, however, that each Lender and the Agent shall not be obligated by reason of this subsection (h) to disclose any information regarding its tax affairs or tax computations or to reorder its tax or other affairs or tax or other planning.

(h) If any Lender determines, in its sole discretion, that it has actually and finally realized, by reason of a refund, deduction or credit of any Taxes paid or reimbursed by the Borrower pursuant to subsection (a) or (c) above in respect of payments under this Agreement or the Notes, a current monetary benefit that it would otherwise not have obtained, and that would result in the total payments under this Section 2.14 exceeding the amount needed to make such Lender whole, such Lender shall pay to the Borrower, with reasonable promptness following the date on which it actually realizes such benefit, an amount equal to the lesser of the amount of such benefit or the amount of such excess, in each case net of all out-of-pocket expenses in securing such refund, deduction or credit; provided that nothing in this clause (i) shall require any Lender to make available its tax returns or any other information relating to its taxes that it deems confidential. Notwithstanding anything to the contrary in this paragraph (i), in no event will the Agent or any Lender be required to pay any amount to the Borrower pursuant to this paragraph (i) the payment of which would place the Agent or such Lender in a less favorable net after-Tax position than the Agent or such Lender would have been in if the indemnification payments or additional amounts giving rise to such refund, deduction or credit had never been paid.

SECTION 2.15 Sharing of Payments, Etc. If any Lender shall obtain any payment (whether voluntary, involuntary, through the exercise of any right of set-off, or otherwise) on account of the Advances owing to it (other than pursuant to Section 2.11, 2.14 or 8.04(c)) in excess of its ratable share of payments on account of the Advances obtained by all the Lenders, such Lender shall forthwith purchase from the other Lenders such participations in the Advances owing to them as shall be necessary to cause such purchasing Lender to share the excess payment ratably with each of them; provided, however, that if all or any portion of such excess payment is thereafter recovered from such purchasing Lender, such purchase from each Lender shall be rescinded and each Lender shall repay to the purchasing Lender the purchase price to the extent of such recovery together with an amount equal to such Lender's ratable share (according to the proportion of (i) the amount of such Lender's required repayment to (ii) the total amount so recovered from the purchasing Lender) of any interest or other amount paid or payable by the purchasing Lender in respect of the total amount so recovered. The Borrower agrees that any Lender so purchasing a participation from another Lender pursuant to this Section 2.15 may, to the fullest extent permitted by law, exercise all its rights of payment (including the right of set-off) with respect to such participation as fully as if such Lender were the direct creditor of the Borrower in the amount of such participation.

SECTION 2.16 Evidence of Debt. (a) Each Lender shall maintain in accordance with its usual practice an account or accounts evidencing the indebtedness of the Borrower to such Lender resulting from each Advance owing to such Lender from time to time, including the amounts of principal and interest payable and paid to such Lender from time to time hereunder in respect of Advances. The Borrower agrees that upon notice by any Lender to the Borrower (with a copy of such notice to the Agent) to the effect that a Note is required or appropriate in order for such Lender to evidence (whether for purposes of pledge, enforcement or otherwise) the Advances owing to, or to be made by, such Lender, the Borrower shall promptly execute and deliver to such Lender a Note payable to the order of such Lender in a principal amount up to the Commitment of such Lender.

(a) The Register maintained by the Agent pursuant to Section 8.07(c) shall include a control account, and a subsidiary account for each Lender, in which accounts (taken together) shall be recorded (i) the date and amount of each Borrowing made hereunder, the Type of Advances comprising such Borrowing and, if appropriate, the Interest Period applicable thereto, (ii) the terms of each Assignment and Assumption delivered to and accepted by it, (iii) the amount of any principal or interest due and payable or to become due and payable from the Borrower to each Lender hereunder and (iv) the amount of any sum received by the Agent from the Borrower hereunder and each Lender's share thereof.

(b) Entries made in good faith by the Agent in the Register pursuant to subsection (b) above, and by each Lender in its account or accounts pursuant to subsection (a) above, shall be prima facie evidence of the amount of principal and interest due and payable or to become due and payable from the Borrower to, in the case of the Register, each Lender and, in the case of such account or accounts, such Lender, under this Agreement, absent manifest error; provided, however, that the failure of the Agent or such Lender to make an entry, or any finding that an entry is incorrect, in the Register or such account or accounts shall not limit or otherwise affect the obligations of the Borrower under this Agreement.

SECTION 2.17 Use of Proceeds. The proceeds of the Advances shall be available (and the Borrower agrees that it shall use such proceeds) solely for general corporate purposes of the Borrower and its Subsidiaries, including without limitation share repurchases, acquisitions and the refinancing of existing indebtedness.

SECTION 2.18 [Reserved].

SECTION 2.19 [Reserved].

SECTION 2.20 Defaulting Lenders. (a) If a Lender becomes, and during the period it remains, a Defaulting Lender, the following provisions shall apply:

(i) any amount paid by the Borrower or otherwise received by the Agent for the account of a Defaulting Lender under this Agreement (whether on account of principal, interest, indemnity payments or other amounts) will not be paid or distributed to such Defaulting Lender, but will instead be retained by the Agent in a segregated non-interest bearing account until (subject to Section 2.20(d)) payment in full of all obligations of the Borrower hereunder and will be applied by the Agent, to the fullest extent permitted by law, to the making of payments from time to time in the following order of priority: first to the payment of any amounts owing by such Defaulting Lender to the Agent under this Agreement, second to the payment of post-default interest and then current interest due and payable to the Lenders hereunder other than Defaulting Lenders, ratably among them in accordance with the amounts of such interest then due and payable to them, third to pay principal then due and payable to the Non-Defaulting Lenders hereunder ratably in accordance with the amounts thereof then due and payable to them, fourth to the ratable payment of other amounts then due and payable to the Non-Defaulting Lenders, fifth, so long as no Event of Default exists, to the payment of any amounts owing to the Borrower as a result of any judgment of a court of competent jurisdiction obtained by the Borrower against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement, and sixth after payment in full of all obligations of the Borrower hereunder, to pay amounts owing under this Agreement to such Defaulting Lender or as a court of competent jurisdiction may otherwise direct. Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender pursuant to this Section 2.20 shall be deemed paid to and redirected by such Defaulting Lender, and each Lender irrevocably consents hereto.

(b) No Commitment of any Lender shall be increased or otherwise affected, and, except as otherwise expressly provided in this Section 2.20, performance by the Borrower of its obligations shall not be excused or otherwise modified as a result of the operation of this Section 2.20. The rights and remedies against a Defaulting Lender under this Section 2.20 are in addition to any other rights and remedies which the Borrower, the Agent or any Lender may have against such Defaulting Lender.

(c) No Defaulting Lender's Advances shall be included in determining whether the Required Lenders have taken or may take action hereunder (including any consent to any amendment or waiver pursuant to Section 8.01), and no waiver, amendment or modification requiring the consent of each affected Lender pursuant to Section 8.01(e), (f) or (g) shall require the consent of such Defaulting Lender unless such Defaulting Lender is affected differently from other affected Lenders.

(d) If the Borrower and the Agent agree in writing in their reasonable determination that a Defaulting Lender should no longer be deemed to be a Defaulting Lender, the Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with respect to any cash collateral), that Lender will, to the extent applicable, purchase at par that portion of outstanding Advances of the other Lenders or take such other actions as the Agent may determine to be necessary to cause the Advances to be held on a pro rata basis by the Lenders in accordance with their Pro Rata Shares, whereupon such Lender will cease to be a Defaulting Lender; provided that except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute a waiver or release of any claim of any party hereunder arising from such Lender's having been a Defaulting Lender.

SECTION 2.21 Replacement of Lenders. If (a) any Lender requests compensation under Section 2.11, (b) the Borrower is required to pay additional amounts to any Lender or any governmental authority for the account of any Lender pursuant to Section 2.14, (c) any Lender is a Defaulting Lender, or (d) any Lender does not approve any consent, waiver or amendment that (i) requires the approval of all affected Lenders in accordance with the terms of Section 8.01 and (ii) has been approved by the Required Lenders (a "Non-Approving Lender"), then the Borrower may, at its sole expense and effort, upon notice to such Lender and the Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, Section 8.07), all of its interests, rights and obligations under this Agreement to an Eligible Assignee that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment); provided that:

(1) the Borrower shall have paid to the Agent the assignment fee (if any) specified in Section 8.07;

(2) such Lender shall have received payment of an amount equal to the outstanding principal of its Advances, accrued interest thereon and all other amounts payable to it hereunder (including any amounts under Section 8.04(c)) from the assignee (to the extent of such outstanding principal and accrued interest) or the Borrower (in the case of all other amounts);

(3) in the case of any such assignment resulting from a claim for compensation under Section 2.11 or payments required to be made pursuant to Section 2.14, such assignment will result in a reduction in such compensation or payments thereafter;

(4) such assignment does not conflict with applicable law; and

(5) in the case of any assignment resulting from a Lender becoming a Non-Approving Lender, the applicable assignee shall have consented to the applicable amendment, waiver or consent.

A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

ARTICLE III

CONDITIONS TO EFFECTIVENESS AND LENDING

SECTION 3.01 Conditions Precedent to Effectiveness of Amendment and Restatement. This amendment and restatement of the Existing Credit Agreement shall become effective on and as of the first date (the "Effective Date") on which the following conditions precedent have been satisfied:

(a) There shall have occurred no Material Adverse Change since March 31, 2017, except as disclosed in public filings made with the Securities and Exchange Commission prior to April 17, 2018 or delivered to the Lenders prior to the date hereof.

(b) There shall exist no action, suit, investigation, litigation or proceeding affecting the Borrower or any of its Subsidiaries pending or threatened before any court, governmental agency or arbitrator that (i) is reasonably likely to have a Material Adverse Effect other than the matters described in public filings made with the Securities and Exchange Commission prior to April 17, 2018 or delivered to the Lenders prior to the date hereof (the "Disclosed Litigation") or (ii) purports to affect the legality, validity or enforceability of this Agreement or any Note or the consummation of the transactions contemplated hereby, and there shall have been no material adverse change in the status, or financial effect on the Borrower or any of its Subsidiaries, of the Disclosed Litigation from that described in public filings with the Securities and Exchange Commission prior to April 17, 2018 or delivered to the Lenders prior to the date hereof.

(c) Nothing shall have come to the attention of the Lenders during the course of their due diligence investigation to lead them to believe that the information provided to the Lenders prior to the Effective Date was or has become misleading, incorrect or incomplete in any material respect; without limiting the generality of the foregoing, the Lenders shall have been given such access to the management, records, books of account, contracts and properties of the Borrower and its Subsidiaries as they shall have reasonably requested.

(d) All governmental and third party consents and approvals necessary in connection with the transactions contemplated hereby shall have been obtained (without the imposition of any conditions that are not acceptable to the Lenders) and be in effect, and no law or regulation shall be applicable in the reasonable judgment of the Lenders that restrains, prevents or imposes materially adverse conditions upon the transactions contemplated hereby.

(e) The Borrower shall have notified each Lender and the Agent in writing as to the proposed Effective Date.

(f) The Borrower shall have paid all accrued fees and reasonable expenses of the Agent and the Lenders (including the accrued reasonable fees and expenses of counsel to the Agent) to the extent, in the case of arrangement fees, invoiced on or before the Effective Date and, in the case of all other fees and expenses, invoiced at least two Business Days before the Effective Date.

(g) On the Effective Date, the following statements shall be true and the Agent shall have received for the account of each Lender a certificate signed by a duly authorized officer of the Borrower, dated the Effective Date, stating that:

(i) The representations and warranties contained in Section 4.01 are correct on and as of the Effective Date, and

(ii) No event has occurred and is continuing that constitutes a Default.

(h) The Agent shall have received on or before the Effective Date the following, each dated such day, in form and substance satisfactory to the Agent and (except for the Notes) in sufficient copies for each Lender:

(i) From each party hereto either (A) a counterpart of this Agreement signed on behalf of such party or (B) written evidence satisfactory to the Agent (which may include facsimile or other electronic transmission of a signed signature page of this Agreement) that such party has signed a counterpart of this Agreement.

(ii) The Notes to the order of the Lenders to the extent requested by any Lender pursuant to Section 2.16.

(iii) Certified copies of the resolutions of the Board of Directors of the Borrower approving this Agreement and the Notes, and of all documents evidencing other necessary corporate action and governmental approvals, if any, with respect to this Agreement and the Notes.

(iv) A certificate of the Secretary or an Assistant Secretary of the Borrower certifying the names and true signatures of the officers of the Borrower authorized to sign this Agreement and the Notes and the other documents to be delivered hereunder.

(v) A favorable opinion of Kristen Prohl, Senior Vice President Corporate Law & Assistant Corporate Secretary of the Borrower, substantially in the form of Exhibit D hereto and such other opinions or as to such other matters as the Agent or any Lender through the Agent may reasonably request.

(i) Each Lender shall have received all documentation and other information required by bank regulatory authorities under applicable "know your customer" and anti-money laundering rules and regulations, including without limitation the Patriot Act to the extent requested by such Lender at least five Business Days prior to the Effective Date.

SECTION 3.02 Determinations Under Section 3.01. For purposes of determining compliance with the conditions specified in Section 3.01, each Lender shall be deemed to have consented to, approved or accepted or to be satisfied with each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to the Lenders unless an officer of the Agent responsible for the transactions contemplated by this Agreement shall have received notice from such Lender prior to the date that the Borrower, by notice to the Lenders, designates as the proposed Effective Date, specifying its objection thereto. The Agent shall promptly notify the Lenders of the occurrence of the Effective Date.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES

SECTION 4.01 Representations and Warranties of the Borrower. The Borrower represents and warrants as follows:

(a) The Borrower is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, and is properly qualified to do business and in good standing in, and where necessary to maintain its rights and privileges has complied with the fictitious name statute of, every jurisdiction where the failure to maintain such qualification, good standing or compliance could reasonably be expected to have a Material Adverse Effect.

(b) The execution, delivery and performance by the Borrower of this Agreement and the Notes to be delivered by it, and the consummation of the transactions contemplated hereby, are within the Borrower's corporate powers, have been duly authorized by all necessary corporate action, and do not contravene (i) the Borrower's charter or by-laws or (ii) law or any material agreement binding on the Borrower or (iii) to the best of the Borrower's knowledge, any other agreement binding on the Borrower which, as to any agreement referred to in this clause (iii), could be reasonably expected to have a Material Adverse Effect.

(c) No authorization or approval or other action by, and no notice to or filing with, (i) any governmental authority or regulatory body or (ii) any other third party under any material agreement binding on the Borrower or (iii) to the best of the Borrower's knowledge, under any other agreement binding on the Borrower, is required for the due execution, delivery and performance by the Borrower of this Agreement or the Notes to be delivered by it, other than those authorizations or approvals or actions that have been obtained or notices or filings that have been made or, in the case of any third party under an agreement described in clause (iii), except to the extent that failure to obtain such authorization or approval or action, or make such notice or filing could not reasonably be expected to have a Material Adverse Effect.

(d) This Agreement has been, and each of the Notes to be delivered by it when delivered hereunder will have been, duly executed and delivered by the Borrower. This Agreement is, and each of the Notes when delivered hereunder will be, the legal, valid and binding obligation of the Borrower enforceable against the Borrower in accordance with their respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

(e) The Consolidated balance sheet of the Borrower and its Subsidiaries as at March 31, 2017, and the related Consolidated statements of income and cash flows of the Borrower and its Subsidiaries for the fiscal year then ended, accompanied by an opinion of KPMG LLP, independent public accountants, copies of which have been furnished to each Lender, fairly present in all material respects, the Consolidated financial condition of the Borrower and its Subsidiaries as at such date and the Consolidated results of the operations of the Borrower and its Subsidiaries for the period ended on such date, all in accordance with generally accepted accounting principles consistently applied. Since March 31, 2017, there has been no Material Adverse Change, except as disclosed in public filings made with the Securities and Exchange Commission prior to April 17, 2018 or delivered to the Lenders prior to the date hereof.

(f) There is no pending or, to the knowledge of the Borrower, threatened action, suit, investigation, litigation or proceeding, including, without limitation, any Environmental Action, against the Borrower or any of its Subsidiaries before any court, governmental agency or arbitrator that (i) is reasonably likely to have a Material Adverse Effect (other than the Disclosed Litigation) or (ii) purports to affect the legality, validity or enforceability of this Agreement or any Note or of the consummation of the transactions contemplated hereby, and there has been no material adverse change in the status, or financial effect on the Borrower or any of its Subsidiaries, of the Disclosed Litigation from that described in public filings with the Securities and Exchange Commission prior to April 17, 2018 or delivered to the Lenders prior to the date hereof.

(g) The Borrower is not engaged in the business of extending credit for the purpose of purchasing or carrying margin stock (within the meaning of Regulation U issued by the Board of Governors of the Federal Reserve System), and no proceeds of any Advance will be used in a manner that would violate, or result in a violation of, such Regulation U.

(h) The Borrower is not an "investment company", or a company "controlled" by an "investment company", within the meaning of the Investment Company Act of 1940, as amended.

(i) No ERISA Event has occurred or is reasonably expected to occur with respect to any Plan.

(j) (i) As of the date of this Agreement, the funding target attainment percentage, as defined in Section 303(d)(2) of ERISA, of each Plan exceeds 90% and there has been no material adverse change in the funding status of any such Plan since such date; and (ii) as of the last annual actuarial valuation date, the funding target attainment percentage, as defined in Section 303(d)(2) of ERISA, of each Plan with a funding shortfall, as defined in Section 303(c)(4) of ERISA, in excess of $25,000,000 exceeds 90% and there has been no material adverse change in the funding status of any such Plan since such date.

(k) Neither the Borrower nor any ERISA Affiliate has incurred or is reasonably expected to incur any Withdrawal Liability to any Multiemployer Plan.

(l) Neither the Borrower nor any ERISA Affiliate has been notified by the sponsor of a Multiemployer Plan that such Multiemployer Plan is in reorganization or has been terminated, within the meaning of Title IV of ERISA, and no such Multiemployer Plan is reasonably expected to be in reorganization or to be terminated, within the meaning of Title IV of ERISA.

(m) The Borrower and each of its Subsidiaries has good and marketable title to its properties and assets (other than those properties and assets the loss of which would not reasonably be expected to have a Material Adverse Effect) free and clear of all Liens or rights of others, except for Liens permitted by Section 5.02(a).

(n) No information, schedule, exhibit or report furnished by the Borrower to the Agent or to any Lender in connection with this Agreement, or in connection with any Advance, contained any untrue statement of a material fact or omitted a material fact necessary to make the statement made not misleading in light of all the circumstances existing at the date the statement was made; provided that, with respect to projected financial information, the Borrower represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time.

(o) The Borrower has implemented and maintains in effect policies and procedures designed to promote compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with anti-money laundering laws, Anti-Corruption Laws and applicable Sanctions, and the Borrower, its Subsidiaries and their respective officers and to the knowledge of the Borrower its directors, employees and agents, are in compliance with applicable anti-money laundering laws, Anti-Corruption Laws and applicable Sanctions in all material respects.

None of (a) the Borrower or any Subsidiary or (b) to the knowledge of the Borrower, any of the Borrower's or any Subsidiary's respective directors, officers or employees or any agent of the Borrower or any Subsidiary that will act in any capacity in connection with or benefit from the credit facility established hereby, is a Sanctioned Person.

(p) The Borrower is not an EEA Financial Institution.

ARTICLE V

COVENANTS OF THE BORROWER

SECTION 5.01 Affirmative Covenants. So long as any Advance shall remain unpaid or any Lender shall have any Commitment hereunder shall be outstanding, the Borrower will:

(a) Compliance with Laws, Etc. Comply, and cause each of its Subsidiaries to comply, in all material respects, with all applicable laws, rules, regulations and orders, such compliance to include, without limitation, compliance with ERISA and Environmental Laws, except in such instances in which such law, rule, regulation or order is being contested in good faith by appropriate proceedings diligently conducted; and maintain in effect and enforce policies and procedures reasonably designed to promote compliance by the Borrower, its Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions.

(b) Payment of Taxes, Etc. Pay and discharge, and cause each of its Material Subsidiaries to pay and discharge, before the same shall become delinquent, all material taxes, assessments and governmental charges or levies imposed upon it or upon its property; provided, however, that neither the Borrower nor any of its Material Subsidiaries shall be required to pay or discharge any such tax, assessment, charge or claim that is being contested in good faith and by proper proceedings and as to which appropriate reserves are being maintained.

(c) Maintenance of Insurance. Maintain, and cause each of its Material Subsidiaries to maintain, insurance with responsible and reputable insurance companies or associations in such amounts and covering such risks as is usually carried by companies engaged in similar businesses and owning similar properties in the same general areas in which the Borrower or such Material Subsidiary operates; provided, however, that the Borrower and its Material Subsidiaries may self-insure to the same extent as other companies engaged in similar businesses and owning similar properties in the same general areas in which the Borrower or such Material Subsidiary operates and to the extent consistent with prudent business practice.

(d) Preservation of Corporate Existence, Etc. Preserve and maintain, and cause each of its Material Subsidiaries to preserve and maintain, its corporate existence, rights (charter and statutory) and franchises; provided, however, that the Borrower and its Material Subsidiaries may consummate any merger or consolidation permitted under Section 5.02(b) and provided further that neither the Borrower nor any of its Material Subsidiaries shall be required to preserve any right or franchise or, in the case of any Material Subsidiary, corporate existence, if the Board of Directors of the Borrower or such Material Subsidiary shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Borrower or such Material Subsidiary, as the case may be, and that the loss thereof is not disadvantageous in any material respect to the Borrower, such Material Subsidiary or the Lenders.

(e) Visitation Rights. At any reasonable time, from time to time during normal business hours, and, in the absence of an Event of Default, no more than once a year at the Borrower's expense, upon reasonable advance notice, permit the Agent or any of the Lenders or any agents or representatives thereof, to examine and make copies of and abstracts from the records and books of account of, and visit the properties of, the Borrower and any of its Subsidiaries, and to discuss the affairs, finances and accounts of the Borrower and any of its Material Subsidiaries with any of their officers or directors and with their independent certified public accountants; provided, however, that when an Event of Default exists the Agent or any Lender (or any of their respective agents or representatives) may do any of the foregoing at any time during normal business hours and as often as may be desired.

(f) Keeping of Books. Keep, and cause each of its Subsidiaries to keep, proper books of record and account, in which full and correct entries shall be made of all financial transactions and the assets and business of the Borrower and each such Subsidiary in accordance with generally accepted accounting principles in effect from time to time.

(g) Maintenance of Properties, Etc. Maintain and preserve, and cause each of its Material Subsidiaries to maintain and preserve, all of its material properties that are used or useful in the conduct of its business in good working order and condition, ordinary wear and tear excepted.

(h) Transactions with Affiliates. Conduct, and cause each of its Subsidiaries to conduct, all transactions otherwise permitted under this Agreement with any of their Affiliates on terms that are fair and reasonable and substantially no less favorable to the Borrower or such Subsidiary than it would obtain in a comparable arm's-length transaction with a Person not an Affiliate; provided that this covenant shall not limit (i) transactions with officers or directors of the Borrower to the extent that such transactions are consistent with past practice, (ii) transactions among Subsidiaries of the Borrower or (iii) transactions between the Borrower and any special purpose entity established in connection with a securitization permitted under Section 5.02(a)(viii).

(i) Reporting Requirements. Furnish to the Lenders:

(i) as soon as available and in any event within 45 days after the end of each of the first three quarters of each fiscal year of the Borrower, the Consolidated balance sheet of the Borrower and its Subsidiaries as of the end of such quarter and Consolidated statements of income and cash flows of the Borrower and its Subsidiaries for the period commencing at the end of the previous fiscal year and ending with the end of such quarter, duly certified (subject to year-end audit adjustments) by the chief financial officer or treasurer of the Borrower as having been prepared in accordance with generally accepted accounting principles and accompanied by a certificate of the chief financial officer or treasurer of the Borrower as to compliance with the terms of this Agreement and setting forth in reasonable detail the calculations necessary to demonstrate compliance with Section 5.03, provided that in the event of any change in generally accepted accounting principles used in the preparation of such financial statements, the Borrower shall also provide, if necessary for the determination of compliance with Section 5.03, a statement of reconciliation conforming such financial statements to GAAP;

(ii) as soon as available and in any event within 90 days after the end of each fiscal year of the Borrower, a copy of the annual audit report for such year for the Borrower and its Subsidiaries, containing the Consolidated balance sheet of the Borrower and its Subsidiaries as of the end of such fiscal year and Consolidated statements of income and cash flows of the Borrower and its Subsidiaries for such fiscal year, in each case accompanied by an opinion reasonably acceptable to the Required Lenders by KPMG LLP or other independent public accountants reasonably acceptable to the Required Lenders and a certificate of the chief financial officer or treasurer of the Borrower as to compliance with the terms of this Agreement and setting forth in reasonable detail the calculations necessary to demonstrate compliance with Section 5.03, provided that in the event of any change in generally accepted accounting principles used in the preparation of such financial statements, the Borrower shall also provide, if necessary for the determination of compliance with Section 5.03, a statement of reconciliation conforming such financial statements to GAAP;

(iii) as soon as possible and in any event within five Business Days after the occurrence of each Default continuing on the date of such statement, a statement of the chief financial officer or treasurer of the Borrower setting forth details of such Default and the action that the Borrower has taken and proposes to take with respect thereto;

(iv) promptly after the sending or filing thereof, copies of all quarterly and annual reports that the Borrower sends to its public securityholders generally, and copies of all reports on Form 8-K and registration statements for the public offering (other than pursuant to employee plans) of securities that the Borrower or any Subsidiary files with the Securities and Exchange Commission or any national securities exchange;

(v) promptly after the commencement thereof, notice of all actions and proceedings before any court, governmental agency or arbitrator of the type described in Section 4.01(f); and

(vi) such other information respecting the Borrower or any of its Subsidiaries or any Plan or Multiemployer Plan as any Lender through the Agent may from time to time reasonably request.

Documents required to be delivered pursuant to Section 5.01(i)(iv) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date (i) on which the Borrower posts such documents, or provides a link thereto on the Borrower's website on the Internet at the following website: http://investor.ca.com/ or such other website designated by the Borrower to the Agent and the Lenders in a written notice; or (ii) on which such documents are posted on the Borrower's behalf on an Internet or intranet website, if any, to which each Lender and the Agent have access (whether a commercial, third-party website or whether sponsored by the Agent).

SECTION 5.02 Negative Covenants. So long as any Advance shall remain unpaid or any Lender shall have any Commitment hereunder, the Borrower will not:

(a) Liens, Etc. Create or suffer to exist, or permit any of its Subsidiaries to create or suffer to exist, any Lien on or with respect to any of its properties, whether now owned or hereafter acquired, or assign, or permit any of its Subsidiaries to assign, any right to receive income, other than:

(i) Permitted Liens,

(ii) purchase money Liens upon or in any real property (including, without limitation, buildings and buildouts thereon) or equipment constructed, acquired or held by the Borrower or any Subsidiary in the ordinary course of business to secure the purchase price or cost of construction of such property or equipment or to secure Debt incurred solely for the purpose of financing the acquisition or construction of such property or equipment, or Liens existing on such property or equipment at the time of its acquisition (other than any such Liens created in contemplation of such acquisition that were not incurred to finance the acquisition of such property) or extensions, renewals or replacements of any of the foregoing for the same or a lesser amount, provided, however, that no such Lien shall extend to or cover any properties of any character other than the real property or equipment being acquired or constructed, and no such extension, renewal or replacement shall extend to or cover any properties not theretofore subject to the Lien being extended, renewed or replaced,

(iii) the Liens existing on the Effective Date and described on Schedule 5.02(a) hereto,

(iv) Liens on property of a Person existing at the time such Person is merged into or consolidated with the Borrower or any Subsidiary of the Borrower or becomes a Subsidiary of the Borrower; provided that such Liens were not created in contemplation of such merger, consolidation or acquisition and do not extend to any assets other than those of the Person so merged into or consolidated with the Borrower or such Subsidiary or acquired by the Borrower or such Subsidiary,

(v) deposits to secure the performance of bids, trade contracts (other than for borrowed money), leases, statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business,

(vi) Liens in favor of the United States of America or any other governmental agencies or entities for amounts paid to the Borrower or any of its Subsidiaries as progress payments under government contracts entered into by it,

(vii) Liens on real property,

(viii) Liens on accounts receivable (including, without limitation, license receivables), or sales, conveyances, transfers or other dispositions of accounts receivables (including, without limitation, license receivables) to secure Debt for Borrowed Money in connection with or to the extent otherwise related to securitization programs not in excess of $750,000,000 in the aggregate for all such securitization programs of the Borrower and its Subsidiaries,

(ix) other Liens securing Debt or other obligations or claims in an aggregate principal amount not to exceed at any time outstanding an amount equal to 5% of net tangible assets of the Borrower and it Subsidiaries taken as a whole,

(x) Liens on cash collateral provided under the terms of this Agreement

(xi) Liens in favor of banks and other financial institutions, brokers and dealers arising in the normal course of business in connection with the acquisition and disposition of investments, cash management arrangements and other customary treasury activities of the Borrower and its Subsidiaries, and

(xii) the replacement, extension or renewal of any Lien permitted by clause (iii), (iv) or (vii) above upon or in the same property or assets theretofore subject thereto or the replacement, extension or renewal (without increase in the amount or change in any direct or contingent obligor other than changes among Subsidiaries of the Borrower and changes from the Borrower to any of its Subsidiaries) of the Debt secured thereby.

(b) Mergers, Etc. Merge or consolidate with or into, or convey, transfer, lease or otherwise dispose of (whether in one transaction or in a series of transactions) all or substantially all of its assets (whether now owned or hereafter acquired) to, any Person, or permit any of its Subsidiaries to do so, except that (i) any Subsidiary of the Borrower may merge or consolidate with or into, or dispose of assets to, any other Subsidiary of the Borrower, (ii) any Subsidiary of the Borrower may merge or consolidate with or into or dispose of assets to the Borrower so long as the Borrower is the surviving Person, (iii) any Subsidiary of the Borrower formed for the purpose of acquiring any other Person may merge or consolidate with or into such other Person and (iv) any Subsidiary of the Borrower may merge or consolidate with or into, or dispose of assets to, any other Person, provided, in each case, that no Default shall have occurred and be continuing at the time of such proposed transaction or would result therefrom.

(c) Accounting Changes. Make, or permit any of its Subsidiaries to make, any change in accounting policies or reporting practices, except as required or permitted by generally accepted accounting principles.

(d) Change in Nature of Business. Make or cause to be made any material change in the nature of the business carried on by the Borrower and its Subsidiaries taken as a whole at the date hereof.

(e) Use of Proceeds. Request any Borrowing, or use, or permit its Subsidiaries or knowingly permit any of its or their respective directors, officers, employees and agents to use, the proceeds of any Borrowing (i) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any Anti-Corruption Laws, (ii) for the purpose of funding, financing or facilitating any activities, business or transaction of or with any Sanctioned Person, or in any Sanctioned Country, or (iii) in any manner that would result in the violation of any Sanctions applicable to any party hereto.

SECTION 5.03 Financial Covenants. So long as any Advance shall remain unpaid or any Lender shall have any Commitment hereunder, the Borrower will:

(a) Leverage Ratio. Maintain, as of any date, a ratio of Consolidated Debt for Borrowed Money of the Borrower and its Subsidiaries as of such date to Consolidated Cash Flow of the Borrower and its Subsidiaries for the period of four fiscal quarters ended on or immediately prior to such date of not greater than 4.00 to 1.00.

(b) Interest Coverage Ratio. Maintain, as of any date, a ratio of Consolidated Cash Flow of the Borrower and its Subsidiaries for the period of four fiscal quarters ended on or immediately prior to such date to the sum of interest payable on, and amortization of debt discount in respect of, all Consolidated Debt for Borrowed Money of the Borrower and its Subsidiaries during such period by the Borrower and its Subsidiaries of not less than 3.50 to 1.00.

ARTICLE VI

EVENTS OF DEFAULT

SECTION 6.01 Events of Default. If any of the following events ("Events of Default") shall occur and be continuing:

(a) The Borrower shall fail to pay any principal of any Advance when the same becomes due and payable; or the Borrower shall fail to pay any interest on any Advance or make any other payment of fees or other amounts payable under this Agreement or any Note within three Business Days after the same becomes due and payable; or

(b) Any representation or warranty made by the Borrower herein or by the Borrower (or any of its officers) in connection with this Agreement shall prove to have been incorrect in any material respect when made or deemed made; or

(c) (i) The Borrower shall fail to perform or observe any term, covenant or agreement contained in Section 5.01(d) (as to the corporate existence of the Borrower), (e), (h) or (i)(iii), 5.02 or 5.03, or (ii) the Borrower shall fail to perform or observe any other term, covenant or agreement contained in this Agreement on its part to be performed or observed if such failure shall remain unremedied for 30 days after written notice thereof shall have been given to the Borrower by the Agent or any Lender; or

(d) The Borrower or any of its Subsidiaries shall fail to pay any principal of or premium or interest on any Debt that is outstanding in a principal or notional amount of at least $100,000,000 in the aggregate (but excluding Debt outstanding hereunder) of the Borrower or such Subsidiary (as the case may be), when the same becomes due and payable (whether by scheduled maturity, required prepayment, acceleration, demand or otherwise), and such failure shall continue after the applicable grace period, if any, specified in the agreement or instrument relating to such Debt; or any other event shall occur or condition shall exist under any agreement or instrument relating to any such Debt and shall continue after the applicable grace period, if any, specified in such agreement or instrument, if the effect of such event or condition is to accelerate, or to permit the acceleration of, the maturity of such Debt; or any such Debt shall be declared to be due and payable, or required to be prepaid or redeemed (other than by a regularly scheduled required prepayment or redemption), purchased or defeased, or an offer to prepay, redeem, purchase or defease such Debt shall be required to be made, in each case prior to the stated maturity thereof; or

(e) The Borrower or any of its Material Subsidiaries shall generally not pay its debts as such debts become due, or shall admit in writing its inability to pay its debts generally, or shall make a general assignment for the benefit of creditors; or any proceeding shall be instituted by or against the Borrower or any of its Material Subsidiaries seeking to adjudicate it a bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief, or composition of it or its debts under any law relating to bankruptcy, insolvency or reorganization or relief of debtors, or seeking the entry of an order for relief or the appointment of a receiver, trustee, custodian or other similar official for it or for any substantial part of its property and, in the case of any such proceeding instituted against it (but not instituted by it), either such proceeding shall remain undismissed or unstayed for a period of 60 days, or any of the actions sought in such proceeding (including, without limitation, the entry of an order for relief against, or the appointment of a receiver, trustee, custodian or other similar official for, it or for any substantial part of its property) shall occur; or the Borrower or any of its Material Subsidiaries shall take any corporate action to authorize any of the actions set forth above in this subsection (e); or

(f) Judgments or orders for the payment of money in excess of $100,000,000 in the aggregate shall be rendered against the Borrower or any of its Subsidiaries and such judgment or order shall not have been vacated, discharged, stayed or bonded pending appeal within 30 days from the entry thereof; or

(g) (i) Any Person or "group" (within the meaning of Section 13(d) or 14(d) of the Securities Exchange Act of 1934, as amended) shall have acquired beneficial ownership of 40% or more of any outstanding class of capital stock of the Borrower having ordinary voting power in the election of directors of the Borrower (other than any Person or "group" which owns such amount of capital stock on the date hereof); or (ii) during any period of up to 12 consecutive months, commencing before or after the date of this Agreement, individuals who at the beginning of such 12-month period were directors of the Borrower shall cease for any reason to constitute a majority of the board of directors of the Borrower (except to the extent that individuals who at the beginning of such 12-month period were replaced by individuals (x) elected by a majority of the remaining members of the board of directors of the Borrower or (y) nominated for election by a majority of the remaining members of the board of directors of the Borrower and thereafter elected as directors by the shareholders of the Borrower); or

(h) The Borrower or any of its ERISA Affiliates shall incur liability in excess of $100,000,000 in the aggregate as a result of one or more of the following: (i) the occurrence of any ERISA Event; (ii) the partial or complete withdrawal of the Borrower or any of its ERISA Affiliates from a Multiemployer Plan; or (iii) the reorganization or termination of a Multiemployer Plan;

then, and in any such event, the Agent (i) shall at the request, or may with the consent, of the Required Lenders, by notice to the Borrower, declare the obligation of each Lender to make Advances to be terminated, whereupon the same shall forthwith terminate, and (ii) shall at the request, or may with the consent, of the Required Lenders, by notice to the Borrower, declare the Advances, all interest thereon and all other amounts payable under this Agreement to be forthwith due and payable, whereupon the Advances, all such interest and all such amounts shall become and be forthwith due and payable, without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived by the Borrower; provided, however, that in the event of an actual or deemed (pursuant to Section 301 of the Federal Bankruptcy Code or any successor thereto) entry of an order for relief with respect to the Borrower under the Federal Bankruptcy Code, (A) the obligation of each Lender to make Advances shall automatically be terminated and (B) the Advances, all such interest and all such amounts shall automatically become and be due and payable, without presentment, demand, protest or any notice of any kind, all of which are hereby expressly waived by the Borrower.

ARTICLE VII

THE AGENT

SECTION 7.01 Appointment and Authority. Each of the Lenders hereby irrevocably appoints Bank of America to act on its behalf as the Agent hereunder and authorizes the Agent to take such actions on its behalf and to exercise such powers as are delegated to the Agent by the terms hereof, together with such actions and powers as are reasonably incidental thereto. The provisions of this Article are solely for the benefit of the Agent and the Lenders, and the Borrower shall not have rights as a third-party beneficiary of any of such provisions. It is understood and agreed that the use of the term "agent" herein (or any other similar term) with reference to the Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable law. Instead such term is used as a matter of market custom, and is intended to create or reflect only an administrative relationship between contracting parties.

SECTION 7.02 Rights as a Lender. The Person serving as the Agent hereunder shall have the same rights and powers and obligations in its capacity as a Lender as any other Lender and may exercise the same as though it were not the Agent, and the term "Lender" or "Lenders" shall, unless otherwise expressly indicated or unless the context otherwise requires, include the Person serving as the Agent hereunder in its individual capacity. Such Person and its Affiliates may accept deposits from, lend money to, own securities of, act as the financial advisor or in any other advisory capacity for, and generally engage in any kind of business with, the Borrower or any Subsidiary or other Affiliate thereof as if such Person were not the Agent hereunder and without any duty to account therefor to the Lenders.

SECTION 7.03 Exculpatory Provisions. (a) The Agent shall not have any duties or obligations except those expressly set forth herein, and its duties hereunder shall be administrative in nature. Without limiting the generality of the foregoing, the Agent:

(i) shall not be subject to any fiduciary or other implied duties, regardless of whether a Default has occurred and is continuing;

(ii) shall not have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby that the Agent is required to exercise as directed in writing by the Required Lenders (or such other number or percentage of the Lenders as shall be expressly provided for herein); provided that the Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose the Agent to liability or that is contrary to this Agreement or applicable law, including for the avoidance of doubt any action that may be in violation of the automatic stay under any debtor relief law or that may effect a forfeiture, modification or termination of property of a Defaulting Lender in violation of any debtor relief law; and

(iii) shall not, except as expressly set forth herein, have any duty to disclose, and shall not be liable for the failure to disclose, any information relating to the Borrower or any of its Affiliates that is communicated to or obtained by the Person serving as the Agent or any of its Affiliates in any capacity.

(b) The Agent shall not be liable to any Lender for any action taken or not taken by it (i) with the consent or at the request of the Required Lenders (or such other number or percentage of the Lenders as shall be necessary, or as the Agent shall believe in good faith shall be necessary, under the circumstances as provided in Sections 8.01 and Article VI), or (ii) in the absence of its own gross negligence or willful misconduct as determined by a court of competent jurisdiction by final and nonappealable judgment. The Agent shall be deemed not to have knowledge of any Default unless and until notice describing such Default is given to the Agent in writing by the Borrower or a Lender.

(c) The Agent shall not be responsible for or have any duty to ascertain or inquire into (i) any statement, warranty or representation made in or in connection with this Agreement, (ii) the contents of any certificate, report or other document delivered hereunder or in connection herewith, (iii) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any Default, (iv) the validity, enforceability, effectiveness or genuineness of this Agreement or any other agreement, instrument or document or (v) the satisfaction of any condition set forth in Article III or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Agent.

SECTION 7.04 Reliance by Agent. The Agent shall be entitled to rely upon, and shall not incur any liability for relying upon, any notice, request, certificate, consent, statement, instrument, document or other writing (including any electronic message, Internet or intranet website posting or other distribution) believed by it to be genuine and to have been signed, sent or otherwise authenticated by the proper Person. The Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall not incur any liability for relying thereon. In determining compliance with any condition hereunder to the making of an Advance that by its terms must be fulfilled to the satisfaction of a Lender, the Agent may presume that such condition is satisfactory to such Lender unless the Agent shall have received notice to the contrary from such Lender prior to the making of such Advance. The Agent may consult with legal counsel (who may be counsel for the Borrower), independent accountants and other experts selected by it, and shall not be liable for any action taken or not taken by it in accordance with the advice of any such counsel, accountants or experts.

SECTION 7.05 Indemnification. (a) The Lenders agree to indemnify the Agent (to the extent not reimbursed by the Borrower), ratably according to the respective principal amounts of the Advances then owed to each of them (or if no Advances are at the time outstanding, ratably according to the respective amounts of their Commitments), from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever that may be imposed on, incurred by, or asserted against the Agent in any way relating to or arising out of this Agreement or any action taken or omitted by the Agent under this Agreement (collectively, the “Indemnified Costs”), provided that no Lender shall be liable for any portion of the Indemnified Costs resulting from the Agent’s gross negligence or willful misconduct. Without limitation of the foregoing, each Lender agrees to reimburse the Agent promptly upon demand for its ratable share of any out-of-pocket expenses (including reasonable counsel fees) incurred by the Agent in connection with the preparation, execution, delivery, administration, modification, amendment or enforcement (whether through negotiations, legal proceedings or otherwise) of, or legal advice in respect of rights or responsibilities under, this Agreement, to the extent that the Agent is not reimbursed for such expenses by the Borrower. In the case of any investigation, litigation or proceeding giving rise to any Indemnified Costs, this Section 7.05 applies whether any such investigation, litigation or proceeding is brought by the Agent, any Lender or a third party.

(b) For purposes of this Section 7.05, the Lenders’ respective ratable shares of any amount shall be determined, at any time, according to the aggregate principal amount of the Advances outstanding at such time and owing to the respective Lenders. The failure of any Lender to reimburse the Agent promptly upon demand for its ratable share of any amount required to be paid by the Lenders to the Agent as provided herein shall not relieve any other Lender of its obligation hereunder to reimburse the Agent for its ratable share of such amount, but no Lender shall be responsible for the failure of any other Lender to reimburse the Agent for such other Lender’s ratable share of such amount. Without prejudice to the survival of any other agreement of any Lender hereunder, the agreement and obligations of each Lender contained in this Section 7.05 shall survive the payment in full of principal, interest and all other amounts payable hereunder and under the Notes.

SECTION 7.06 Delegation of Duties. The Agent may perform any and all of its duties and exercise its rights and powers hereunder by or through any one or more sub-agents appointed by the Agent. The Agent and any such sub-agent may perform any and all of its duties and exercise its rights and powers by or through their respective Related Parties. The exculpatory provisions of this Article shall apply to any such sub-agent and to the Related Parties of the Agent and any such sub-agent, and shall apply to their respective activities as Agent. The Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and non appealable judgment that the Agent acted with gross negligence or willful misconduct in the selection of such sub-agents.

SECTION 7.07 Resignation of Agent. (a) The Agent may at any time give notice of its resignation to the Lenders and the Borrower. Upon receipt of any such notice of resignation, the Required Lenders shall have the right, with the consent of the Borrower (so long as no Event of Default shall have occurred and be continuing), to appoint a successor, which shall be a bank with an office in the United States, or an Affiliate of any such bank with an office in the United States. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within 30 days after the retiring Agent gives notice of its resignation (or such earlier day as shall be agreed by the Required Lenders) (the "Resignation Effective Date"), then the retiring Agent may (but shall not be obligated to), on behalf of the Lenders, with the consent of the Borrower (so long as no Event of Default shall have occurred and be continuing), appoint a successor Agent meeting the qualifications set forth above. Whether or not a successor has been appointed, such resignation shall become effective in accordance with such notice on the Resignation Effective Date.

(b) If the Person serving as Agent is a Defaulting Lender pursuant to clause (v) of the definition thereof, the Required Lenders may, and will, if requested in writing by the Borrower, to the extent permitted by applicable law, by notice in writing to the Borrower and such Person remove such Person as Agent and, with the consent of the Borrower (so long as no Event of Default shall have occurred and be continuing), appoint a successor. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within 30 days (or such earlier day as shall be agreed by the Required Lenders) (the "Removal Effective Date"), then such removal shall nonetheless become effective in accordance with such notice on the Removal Effective Date.

(c) With effect from the Resignation Effective Date or the Removal Effective Date (as applicable) (1) the retiring or removed Agent shall be discharged from its duties and obligations hereunder and (2) all payments, communications and determinations provided to be made by, to or through the Agent shall instead be made by or to each Lender directly, until such time, if any, as the Required Lenders appoint a successor Agent as provided for above. Upon the acceptance of a successor's appointment as Agent hereunder, such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring or removed Agent, and the retiring or removed Agent shall be discharged from all of its duties and obligations hereunder. The fees payable by the Borrower to a successor Agent shall be the same as those payable to its predecessor unless otherwise agreed between the Borrower and such successor. After the retiring or removed Agent's resignation or removal hereunder, the provisions of this Article and Section 10.04 shall continue in effect for the benefit of such retiring or removed Agent, its sub-agents and their respective Related Parties in respect of any actions taken or omitted to be taken by any of them while the retiring or removed Agent was acting as Agent.

SECTION 7.08 Non-Reliance on Agent and Other Lenders. Each Lender acknowledges that it has, independently and without reliance upon the Agent or any other Lender or any of their Related Parties and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Agreement. Each Lender also acknowledges that it will, independently and without reliance upon the Agent or any other Lender or any of their Related Parties and based on such documents and information as it shall from time to time deem appropriate, continue to make its own decisions in taking or not taking action under or based upon this Agreement or any related agreement or any document furnished hereunder.

SECTION 7.09 Other Agents. Each Lender hereby acknowledges that no joint lead arranger, bookrunner, syndication agent, documentation agent nor any other Lender designated as any "Agent" (other than the Agent) on the signature pages or the cover hereof has any liability hereunder other than in its capacity as a Lender.

SECTION 7.10 Lender ERISA Matters. (a) Each Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Agent and its Affiliates, that at least one of the following is and will be true:

(i) such Lender is not using "plan assets" (within the meaning of 29 CFR § 2510.3-101, as modified by Section 3(42) of ERISA) of one or more Benefit Plans in connection with the Advances or the Commitments,

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84-14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95-60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90-1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91-38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96-23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender's entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement,

(iii) (A) such Lender is an investment fund managed by a "Qualified Professional Asset Manager" (within the meaning of Part VI of PTE 84-14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Advances, the Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84-14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84-14 are satisfied with respect to such Lender's entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement, or

(iv) such other representation, warranty and covenant as may be agreed in writing between the Agent, in its sole discretion, and such Lender.

(b) In addition, unless sub-clause (i) in the immediately preceding clause (a) is true with respect to a Lender or such Lender has not provided another representation, warranty and covenant as provided in sub-clause (iv) in the immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of the Agent and its Affiliates, that:

(i) none of the or any of its Affiliates is a fiduciary with respect to the assets of such Lender (including in connection with the reservation or exercise of any rights by the Agent under this or any documents related to hereto),

(ii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement is independent (within the meaning of 29 CFR § 2510.3-21) and is a bank, an insurance carrier, an investment adviser, a broker-dealer or other person that holds, or has under management or control, total assets of at least $50 million, in each case as described in 29 CFR § 2510.3-21(c)(1)(i)(A)-(E),

(iii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies,

(iv) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Advances, the Commitments and this Agreement is a fiduciary under ERISA or the Internal Revenue Code, or both, with respect to the Advances, the Commitments and this Agreement and is responsible for exercising independent judgment in evaluating the transactions hereunder, and

(v) no fee or other compensation is being paid directly to the Agent or any its Affiliates for investment advice (as opposed to other services) in connection with the Advances, the Commitments or this Agreement.

(c) The Agent hereby informs the Lenders that the Agent is not undertaking to provide impartial investment advice, or to give advice in a fiduciary capacity, in connection with the transactions contemplated hereby, and that such Person has a financial interest in the transactions contemplated hereby in that such Person or an Affiliate thereof (i) may receive interest or other payments with respect to the Advances, the Commitments and this Agreement, (ii) may recognize a gain if it extended the Advances or the Commitments for an amount less than the amount being paid for an interest in the Advances or the Commitments by such Lender or (iii) may receive fees or other payments in connection with the transactions contemplated hereby or otherwise, including structuring fees, commitment fees, arrangement fees, facility fees, upfront fees, underwriting fees, ticking fees, agency fees, administrative agent or collateral agent fees, utilization fees, minimum usage fees, letter of credit fees, fronting fees, deal-away or alternate transaction fees, amendment fees, processing fees, term out premiums, banker’s acceptance fees, breakage or other early termination fees or fees similar to the foregoing.

As used in this Section, the following terms shall have the following meanings:

“Benefit Plan” means any of (a) an “employee benefit plan” (as defined in ERISA) that is subject to Title I of ERISA, (b) a “plan” as defined in Section 4975 of the Internal Revenue Code or (c) any Person whose assets include (for purposes of ERISA Section 3(42) or otherwise for purposes of Title I of ERISA or Section 4975 of the Internal Revenue Code) the assets of any such “employee benefit plan” or “plan”.

"PTE" means a prohibited transaction class exemption issued by the U.S. Department of Labor, as any such exemption may be amended from time to time.

ARTICLE VIII

MISCELLANEOUS

SECTION 8.01 Amendments, Etc. No amendment or waiver of any provision of this Agreement or the Notes, nor consent to any departure by the Borrower therefrom, shall in any event be effective unless the same shall be in writing and signed by the Borrower and the Required Lenders, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given; provided, however, that no amendment, waiver or consent shall, unless in writing and signed by the Borrower and each Lender affected thereby, do any of the following: (a) waive any of the conditions specified in Section 3.01, (b) increase the Commitments of the Lenders, (c) reduce the principal of, or interest on, the Advances or, to the extent then accrued, other amounts payable hereunder, (d) postpone any date fixed for any payment of principal of, or interest on, the Advances or, to the extent then accrued, other amounts payable hereunder, (e) change the definition of "Required Lenders" or the percentage of the Commitments or of the aggregate unpaid principal amount of the Advances, or the number of Lenders, that shall be required for the Lenders or any of them to take any action hereunder, (f) alter the manner in which payment or prepayments of principal, interest or other amounts hereunder shall be applied as among the Lenders or (g) amend this Section 8.01; and provided further that no amendment, waiver or consent shall, unless in writing and signed by the Agent in addition to the Lenders required above to take such action, affect the rights or duties of the Agent under this Agreement or any Note.

SECTION 8.02 Notices, Etc. (a) Notices Generally. Except in the case of notices and other communications expressly permitted to be given by telephone (and except as provided in paragraph (b) below), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by facsimile as follows:

(i) if to the Borrower, to it at One CA Plaza, Islandia, New York 11788-7000, Attention of Treasurer (Facsimile No. (631) 342-4977; Telephone No. (212) 415-6962), with a copy (other than in the case of administrative notices) to Attention: General Counsel (Facsimile No. (631) 342-6550; Telephone No. (650) 534-9789);

(ii) if to the Agent, to Bank of America, N.A. at TX2-984-03-23, Building C, 2380 Performance Drive, Richardson, TX 75082, Attention of Arlene Minor; (Telephone No. 469-201-8837; Email: Arlene.l.minor@baml.com); and

(iii) if to a Lender, to it at its address (or facsimile number) set forth in its Administrative Questionnaire.

Notices sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices sent by facsimile shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next business day for the recipient). Notices delivered through electronic communications, to the extent provided in paragraph (b) below, shall be effective as provided in said paragraph (b).

(b) Electronic Communications. Notices and other communications to the Lenders hereunder may be delivered or furnished by electronic communication (including e-mail and Internet or intranet websites) pursuant to procedures approved by the Agent, provided that the foregoing shall not apply to notices to any Lender pursuant to Article II if such Lender has notified the Agent that it is incapable of receiving notices under such Article by electronic communication. The Agent or the Borrower may, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it; provided that approval of such procedures may be limited to particular notices or communications.

Unless the Agent otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender's receipt of an acknowledgement from the intended recipient (such as by the "return receipt requested" function, as available, return e-mail or other written acknowledgement), and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient, at its e-mail address as described in the foregoing clause (i), of notification that such notice or communication is available and identifying the website address therefor; provided that, for both clauses (i) and (ii) above, if such notice, email or other communication is not sent during the normal business hours of the recipient, such notice or communication shall be deemed to have been sent at the opening of business on the next business day for the recipient.

(c) Change of Address, etc. Any party hereto may change its address or facsimile number for notices and other communications hereunder by notice to the other parties hereto.

(d) Platform.

(i) The Borrower agrees that the Agent may, but shall not be obligated to, make the Communications (as defined below) available to the Lenders by posting the Communications on Debt Domain, Intralinks, Syndtrak or a substantially similar electronic transmission system (the "Platform").

(ii) The Platform is provided "as is" and "as available." The Agent Parties (as defined below) do not warrant the adequacy of the Platform and expressly disclaim liability for errors or omissions in the Communications. No warranty of any kind, express, implied or statutory, including, without limitation, any warranty of merchantability, fitness for a particular purpose, non-infringement of third-party rights or freedom from viruses or other code defects, is made by any Agent Party in connection with the Communications or the Platform. In no event shall the Agent or any of its Related Parties (collectively, the "Agent Parties") have any liability to the Borrower, any Lender or any other Person or entity for damages of any kind, including, without limitation, direct or indirect, special, incidental or consequential damages, losses or expenses (whether in tort, contract or otherwise) arising out of the Borrower's or the Agent's transmission of communications through the Platform. "Communications" means, collectively, any notice, demand, communication, information, document or other material that the Borrower provides to the Agent pursuant to this Agreement or the transactions contemplated herein which is distributed to the Agent or any Lender by means of electronic communications pursuant to this Section, including through the Platform.

SECTION 8.03 No Waiver; Remedies. No failure on the part of any Lender or the Agent to exercise, and no delay in exercising, any right hereunder or under any Note shall operate as a waiver thereof; nor shall any single or partial exercise of any such right preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

SECTION 8.04 Costs and Expenses. (a) The Borrower agrees to pay reasonably promptly after demand all reasonable costs and expenses of the Agent in connection with the preparation, execution, delivery, modification and amendment of this Agreement, the Notes and the other documents to be delivered hereunder, including, without limitation, the reasonable fees and expenses of counsel for the Agent with respect thereto and with respect to advising the Agent as to its rights and responsibilities under this Agreement. The Borrower further agrees to pay on demand all costs and expenses of the Agent and the Lenders, if any (including, without limitation, reasonable counsel fees and expenses), in connection with the enforcement (whether through negotiations, legal proceedings or otherwise) of this Agreement, the Notes and the other documents to be delivered hereunder, including, without limitation, reasonable fees and expenses of counsel for the Agent and each Lender in connection with the enforcement of rights under this Section 8.04(a).

(b) The Borrower agrees to indemnify and hold harmless the Agent and each Lender and each of their Affiliates and their respective officers, directors, employees, agents and advisors (each, an "Indemnified Party") from and against any and all claims, damages, losses, liabilities and expenses (including, without limitation, reasonable fees and expenses of counsel) incurred by or asserted or awarded against any Indemnified Party, in each case arising out of or in connection with or by reason of any investigation, litigation or proceeding (or preparation of a defense in connection therewith) relating to the Notes, this Agreement, the commitment letters delivered in connection with this Agreement, any of the transactions contemplated herein or the actual or proposed use of the proceeds of the Advances, except to the extent such claim, damage, loss, liability or expense is found in a final, non-appealable judgment by a court of competent jurisdiction to have resulted from such Indemnified Party's gross negligence or willful misconduct. In the case of an investigation, litigation or other proceeding to which the indemnity in this Section 8.04(b) applies, such indemnity shall be effective whether or not such investigation, litigation or proceeding is brought by the Borrower, its directors, equityholders or creditors or an Indemnified Party or any other Person, whether or not any Indemnified Party is otherwise a party thereto and whether or not the transactions contemplated hereby are consummated. The Borrower, to the extent permitted by applicable law, also agrees not to assert any claim for special, indirect, consequential or punitive damages against the Agent, any Lender, any of their Affiliates, or any of their respective directors, officers, employees, attorneys and agents, on any theory of liability, arising out of or otherwise relating to the Notes, this Agreement, any of the transactions contemplated herein or the actual or proposed use of the proceeds of the Advances. No Indemnified Party shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed by it through telecommunications, electronic or other information transmission systems in connection with this Agreement or the transactions contemplated hereby, except to the extent such distribution is found in a final, non-appealable judgment by a court of competent jurisdiction to have been effected by such Indemnified Party with gross negligence or willful misconduct. This Section 8.04(b) shall not apply with respect to taxes other than any taxes that represent losses, claims, damages, etc. arising from any non-tax claim.

(c) If any payment of principal of, or Conversion of, any Eurodollar Rate Advance is made by the Borrower to or for the account of a Lender other than on the last day of the Interest Period for such Advance, as a result of a payment or Conversion pursuant to Section 2.08, 2.10 or 2.12, acceleration of the maturity of the Advances pursuant to Section 6.01 or for any other reason, or by an Eligible Assignee to a Lender other than on the last day of the Interest Period for such Advance upon an assignment of rights and obligations under this Agreement pursuant to Section 8.07 as a result of a demand by the Borrower pursuant to Section 8.07(a) or if the Borrower shall fail to prepay any Eurodollar Rate Advance in accordance with any notice given under Section 2.10, the Borrower shall, upon demand by such Lender (with a copy of such demand to the Agent), pay to the Agent for the account of such Lender any amounts required to compensate such Lender for any additional losses, costs or expenses that it may reasonably incur as a result of such payment or Conversion, including, without limitation, any loss (excluding loss of anticipated profits), cost or expense incurred by reason of the liquidation or reemployment of deposits or other funds acquired by any Lender to fund or maintain such Advance.

(d) Without prejudice to the survival of any other agreement of the Borrower hereunder, the agreements and obligations of the Borrower contained in Sections 2.11, 2.14 and 8.04 shall survive the payment in full of principal, interest and all other amounts payable hereunder and under the Notes and the termination of this Agreement.

SECTION 8.05 Right of Set-off. Upon (i) the occurrence and during the continuance of any Event of Default and (ii) the making of the request or the granting of the consent specified by Section 6.01 to authorize the Agent to declare the Notes due and payable pursuant to the provisions of Section 6.01, each Lender and each of its Affiliates is hereby authorized at any time and from time to time, to the fullest extent permitted by law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) at any time held and other indebtedness at any time owing by such Lender or such Affiliate to or for the credit or the account of the Borrower against any and all of the obligations of the Borrower now or hereafter existing under this Agreement and the Note held by such Lender, whether or not such Lender shall have made any demand under this Agreement or such Note and although such obligations may be unmatured. Each Lender agrees promptly to notify the Borrower after any such set-off and application, provided that the failure to give such notice shall not affect the validity of such set-off and application. The rights of each Lender and its Affiliates under this Section are in addition to other rights and remedies (including, without limitation, other rights of set-off) that such Lender and its Affiliates may have.

SECTION 8.06 Binding Effect. This Agreement shall become effective (other than Section 2.01, which shall only become effective upon satisfaction of the conditions precedent set forth in Section 3.01) when it shall have been executed by the Borrower and the Agent and when the Agent shall have been notified by each Bank that such Bank has executed it and thereafter shall be binding upon and inure to the benefit of the Borrower, the Agent and each Lender and their respective successors and assigns, except that the Borrower shall not have the right to assign its rights hereunder or any interest herein without the prior written consent of all of the Lenders (and any other attempted assignment or transfer by the Borrower shall be null and void).

SECTION 8.07 Assignments and Participations. (a) Successors and Assigns Generally. No Lender may assign or otherwise transfer any of its rights or obligations hereunder except (i) to an assignee in accordance with the provisions of paragraph (b) of this Section, (ii) by way of participation in accordance with the provisions of paragraph (d) of this Section, or (iii) by way of pledge or assignment of a security interest subject to the restrictions of paragraph (f) of this Section (and any other attempted assignment or transfer by any Lender shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in paragraph (d) of this Section and, to the extent expressly contemplated hereby, the Related Parties of each of the Agent and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) Assignments by Lenders. Any Lender may at any time assign to one or more assignees all or a portion of its rights and obligations under this Agreement (including all or a portion of its

Commitment and the Advances at the time owing to it); provided that any such assignment shall be subject to the following conditions:

(i) Minimum Amounts.

(A) in the case of an assignment of the entire remaining amount of the assigning Lender's Commitment and/or the Advances at the time owing to it or in the case of an assignment to a Lender, an Affiliate of a Lender or an Approved Fund, no minimum amount need be assigned; and

(B) in any case not described in paragraph (b)(i)(A) of this Section, the aggregate amount of the Commitment (which for this purpose includes Advances outstanding thereunder) or, if the applicable Commitment is not then in effect, the principal outstanding balance of the Advances of the assigning Lender subject to each such assignment (determined as of the date the Assignment and Assumption with respect to such assignment is delivered to the Agent or, if "Trade Date" is specified in the Assignment and Assumption, as of the Trade Date) shall not be less than $5,000,000 unless each of the Agent and, so long as no Event of Default has occurred and is continuing, the Borrower otherwise consents (each such consent not to be unreasonably withheld or delayed).

(ii) Proportionate Amounts. Each partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender's rights and obligations under this Agreement with respect to the Advance or the Commitment assigned.

(iii) Required Consents. No consent shall be required for any assignment except to the extent required by paragraph (b)(i)(B) of this Section and, in addition the consent of the Borrower (such consent not to be unreasonably withheld or delayed) shall be required unless (x) an Event of Default has occurred and is continuing at the time of such assignment, or (y) such assignment is to a Lender, an Affiliate of such Lender or an Approved Fund with respect of such Lender (in each case, so long as such Lender is not a Defaulting Lender); provided that the Borrower shall be deemed to have consented to any such assignment unless it shall object thereto by written notice to the Agent within ten Business Days after having received notice thereof.

(iv) Assignment and Assumption. The parties to each assignment shall execute and deliver to the Agent an Assignment and Assumption, together with a processing and recordation fee of $3,500; provided that the Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment. The assignee, if it is not a Lender, shall deliver to the Agent an Administrative Questionnaire.

(v) No Assignment to Certain Persons. No such assignment shall be made to (A) the Borrower or any of the Borrower's Affiliates or Subsidiaries or (B) to any Defaulting Lender or any of its Subsidiaries, or any Person who, upon becoming a Lender hereunder, would constitute any of the foregoing Persons described in this clause (B).

(vi) No Assignment to Natural Persons. No such assignment shall be made to a natural Person.

(vii) Certain Additional Payments. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments to the Agent in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations, or other compensating actions, including funding, with the consent of the Borrower and the Agent, the applicable pro rata share of Advances previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (x) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Agent and each other Lender hereunder (and interest accrued thereon), and (y) acquire (and fund as appropriate) its full pro rata share of all Advances in accordance with its Pro Rata Share. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under applicable law without compliance with the provisions of this paragraph, then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

Subject to acceptance and recording thereof by the Agent pursuant to paragraph (c) of this Section, from and after the effective date specified in each Assignment and Assumption, the assignee thereunder shall be a party to this Agreement and, to the extent of the interest assigned by such Assignment and Assumption, have the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto) but shall continue to be entitled to the benefits of Sections 2.12 and 7.05 with respect to facts and circumstances occurring prior to the effective date of such assignment; provided, that except to the extent otherwise expressly agreed by the affected parties, no assignment by a Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this paragraph shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with paragraph (d) of this Section.

(c) Register. The Agent, acting solely for this purpose as an agent of the Borrower, shall maintain at one of its offices in the United States a copy of each Assignment and Assumption delivered to it and a register for the recordation of the names and addresses of the Lenders, and the Commitment of, and principal amount of the Advances owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive absent manifest error, and the Borrower, the Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by the Borrower and any Lender, at any reasonable time and from time to time upon reasonable prior notice.

(d) Participations. Any Lender may at any time, without the consent of, or notice to, the Borrower or the Agent, sell participations to any Person (each, a "Participant") in all or a portion of such Lender's rights and/or obligations under this Agreement (including all or a portion of its Commitment and/or the Advances owing to it); provided that (i) such Lender's obligations under this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations, and (iii) the Borrower, the Agent and the Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 7.05 with respect to any payments made by such Lender to its Participant(s).

Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, modification or waiver that would reduce the principal of, or interest on, the Advances or other amounts due and payable hereunder, or postpone any date fixed for any payment of principal of, or interest on, the Advances or other amounts due and payable hereunder that affects such Participant. The Borrower agrees that each Participant shall be entitled to the benefits of Section 2.11 to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to paragraph (b) of this Section; provided that such Participant agrees to be subject to the provisions of Section 2.21 as if it were an assignee under paragraph (b) of this Section. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 8.05 as though it were a Lender; provided that such Participant agrees to be subject to Section 2.15 as though it were a Lender.

Each Lender that sells a participation, acting solely for this purpose as a nonfiduciary agent of the Borrower, shall maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under this Agreement (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register to any Person (including the identity of any participant or any information relating to a participant's interest in any commitments, loans, letters of credit or its other obligations hereunder) except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103(e) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary.

(e) Limitations upon Participant Rights. A Participant shall not be entitled to receive any greater payment under Sections 2.11 or 2.14 than the applicable Lender would have been entitled to receive with respect to the participation sold to such Participant, unless the sale of the participation to such Participant is made with the Borrower's prior written consent. A Participant that would be a Foreign Lender if it were a Lender shall not be entitled to the benefits of Section 2.14 unless the Borrower is notified of the participation sold to such Participant and such Participant agrees, for the benefit of the Borrower, to comply with Section 2.14(e) as though it were a Lender.

(f) Certain Pledges. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank or other central banking authority; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

SECTION 8.08 Confidentiality. Each of the Agent and the Lenders agrees to maintain the confidentiality of the Information (as defined below), except that Information may be disclosed (a) to its Affiliates and to its and its Affiliates' respective managers, administrators, trustees, partners, directors, officers, employees, agents, advisors and other representatives (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Information and instructed to keep such Information confidential), (b) to the extent requested by any regulatory authority purporting to have jurisdiction over it (including any self-regulatory authority, such as the National Association of Insurance Commissioners), (c) to the extent required by applicable laws or regulations or by any subpoena or similar legal process, (d) to any other party hereto, (e) in connection with the exercise of any remedies hereunder or under any Note or any action or proceeding relating to this Agreement or any Note or the enforcement of rights hereunder or thereunder, (f) subject to an agreement containing provisions substantially the same as those of this Section, to (i) any assignee of or participant in, or any prospective assignee of or participant in, any of its rights or obligations under this Agreement or (ii) any actual or prospective party (or its managers, administrators, trustees, partners, directors, officers, employees, agents, advisors and other representatives) to any swap or derivative or similar transaction under which payments are to be made by reference to the Borrower and its obligations, this Agreement or payments hereunder, (iii) any rating agency, or (iv) the CUSIP Service Bureau or any similar organization, (g) with the consent of the Borrower or (h) to the extent such Information (x) is or becomes publicly available other than as a result of a breach of this Section or (y) becomes available to the Agent, any Lender or any of their respective Affiliates on a nonconfidential basis from a source other than the Borrower (unless the Person receiving such Information is receiving such Information from a source in violation of a confidentiality agreement and such violation is known to such Person). In addition, the Agent and the Lenders may disclose the existence of this Agreement and information about this Agreement to market data collectors, similar service providers to the lending industry and service providers to the Agent and the Lenders in connection with the administration of this Agreement and the Commitments.

"Information" means all information received from the Borrower or any of its Subsidiaries relating to the Borrower or any of its Subsidiaries or any of their respective businesses, other than any such information that is available to the Agent or any Lender on a nonconfidential basis prior to disclosure by the Borrower or any of its Subsidiaries, provided that, in the case of information received from the Borrower or any of its Subsidiaries after the date hereof, such information is clearly identified at the time of delivery as confidential. Any Person required to maintain the confidentiality of Information as provided in this Section shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential information.

SECTION 8.09 Governing Law. This Agreement and the Notes shall be governed by, and construed in accordance with, the laws of the State of New York.

SECTION 8.10 Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. The words "execute," "execution," "signed," "signature," and words of like import in or related to any document to be signed in connection with this Agreement and the transactions contemplated hereby (including without limitation Assignment and Assumptions, amendments or other modifications, Notices of Borrowing, waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act; provided that notwithstanding anything contained herein to the contrary the Agent is under no obligation to agree to accept electronic signatures in any form or in any format unless expressly agreed to by the Agent pursuant to procedures approved by it.

SECTION 8.11 [Reserved].

SECTION 8.12 Jurisdiction, Etc.(a) Each of the parties hereto irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind or description, whether in law or equity, whether in contract or in tort or otherwise, against the Agent, any Lender or any Related Party of the foregoing in any way relating to this Agreement or any Note or the transactions relating hereto or thereto, in any forum other than the courts of the State of New York sitting in New York County, and of the United States District Court for the Southern District of New York, and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that all claims in respect of any such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto consents to the service of process in any action or proceeding in such courts by the mailing thereof by any parties hereto by registered or certified mail, postage prepaid, to such party at its address specified pursuant to Section 8.02. Each of the parties hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(b) Each of the parties hereto irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection that it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Agreement or the Notes in any New York State or federal court. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

SECTION 8.13 [Reserved].

SECTION 8.14 [Reserved].

SECTION 8.15 Patriot Act. Each Lender and the Agent (for itself and not on behalf of any Lender) hereby notifies the Borrower that pursuant to the requirements of the USA Patriot Act (Title III of Pub.L. 107-56 (signed into law October 26, 2001)) (the "Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow such Lender or the Agent, as applicable, to identify the Borrower in accordance with the Patriot Act. The Borrower, to the extent commercially reasonable, shall provide such information and take such actions as are reasonably requested by the Agent or any Lenders in order to assist the Agent and the Lenders in maintaining compliance with the Patriot Act.

SECTION 8.16 No Fiduciary Duties. The Borrower acknowledges that the Agent, the Lenders and their respective Affiliates may have economic interest that conflict with those of the Borrower and its Subsidiaries. The Borrower agrees that in connection with all aspects of the transactions contemplated hereby and any communications in connection therewith, the Borrower and its Affiliates, on the one hand, and the Agent, the Lenders and their respective Affiliates, on the other hand, will have a business relationship that does not create, by implication or otherwise, any fiduciary duty on the part of the Agent, the Lenders or their respective Affiliates and no such duty will be deemed to have arisen in connection with any such transactions or communications.

SECTION 8.17 Acknowledgement and Consent to Bail-In of EEA Financial Institutions**.** Notwithstanding anything to the contrary in this Agreement or in any other agreement, arrangement or understanding among the parties hereto, each party hereto acknowledges that any liability of any EEA Financial Institution arising under this Agreement, to the extent such liability is unsecured, may be subject to the Write-Down and Conversion Powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an EEA Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement; or

(iii) the variation of the terms of such liability in connection with the exercise of the Write-Down and Conversion Powers of any EEA Resolution Authority.

As used in this Agreement, the following terms shall have the following meanings:

"Bail-In Action" means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

"Bail-In Legislation" means, with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule.

"EEA Financial Institution" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

"EEA Member Country" means any of the member states of the European Union, Iceland, Liechtenstein and Norway.

"EEA Resolution Authority" means any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

"EU Bail-In Legislation Schedule" means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor Person), as in effect from time to time.

"Write-Down and Conversion Powers" means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

[*Signature pages follow.*]

SECTION 8.18 Waiver of Jury Trial. Each party hereto hereby irrevocably waives all right to trial by jury in any action, proceeding or counterclaim (whether based on contract, tort or otherwise) arising out of or relating to this Agreement or the Notes or the actions of the Agent or any Lender in the negotiation, administration, performance or enforcement thereof.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized, as of the date first above written.

CA, INC.

By: /s/ Mary Charmian Uy
Name: Mary Charmian Uy
Title: SVP, Treasurer

BANK OF AMERICA, N.A.,
as Agent

By: /s/ Jeannette T. Lu
Name: Jeannette T. Lu
Title: Director

BANK OF AMERICA, N.A., as Lender

By: /s/ Jeannette T. Lu
Name: Jeannette T. Lu
Title: Director

SCHEDULE I

Name of Bank	Commitment
Bank of America, N.A.	$300,000,000
Total	**$300,000,000**

U.S.$________________ Dated: ________________, 201_

FOR VALUE RECEIVED, the undersigned, CA, INC., a Delaware corporation (the "Borrower"), HEREBY PROMISES TO PAY to the order of ___________________________ (the "Lender") for the account of its Applicable Lending Office on the Maturity Date (each as defined in the Term Loan Agreement referred to below) the principal sum of U.S.$[amount of the Lender's Commitment in figures] or, if less, the aggregate principal amount of the Advances made by the Lender to the Borrower pursuant to the Amended and Restated Term Loan Agreement dated as of April 20, 2018 among the Borrower, the Lender and certain other lenders parties thereto, and Bank of America, N.A., as Agent for the Lender and such other lenders (as amended or modified from time to time, the "Term Loan Agreement"; the terms defined therein being used herein as therein defined) outstanding on the Maturity Date.

The Borrower promises to pay interest on the unpaid principal amount of each Advance from the date of such Advance until such principal amount is paid in full, at such interest rates, and payable at such times, as are specified in the Term Loan Agreement.

Both principal and interest in respect of each Advance are payable in lawful money of the United States of America to the Agent at its account maintained at ___________, in same day funds. Each Advance owing to the Lender by the Borrower pursuant to the Term Loan Agreement, and all payments made on account of principal thereof, shall be recorded by the Lender and, prior to any transfer hereof, endorsed on the grid attached hereto which is part of this Promissory Note.

This Promissory Note is one of the Notes referred to in, and is entitled to the benefits of, the Term Loan Agreement. The Term Loan Agreement, among other things, (i) provides for the making of an Advance by the Lender to the Borrower in an amount not to exceed the U.S. dollar amount first above mentioned, the indebtedness of the Borrower resulting from such Advance being evidenced by this Promissory Note and (ii) contains provisions for acceleration of the maturity hereof upon the happening of certain stated events and also for prepayments on account of principal hereof prior to the maturity hereof upon the terms and conditions therein specified.

CA, INC.

By__
Title:

ADVANCES AND PAYMENTS OF PRINCIPAL

Date	Amount of Advance	Amount of Principal Paid or Prepaid	Unpaid Principal Balance	Notation Made By

Bank of America, N.A., as Agent
for the Lenders parties
to the Term Loan Agreement
referred to below
TX2-984-03-23
Building C
2380 Performance Dr
Richardson, TX 75082

[Date]

Attention: Arlene Minor

Ladies and Gentlemen:

The undersigned, CA, Inc., refers to the Amended and Restated Term Loan Agreement dated as of April 20, 2018 (as amended or modified from time to time, the "Term Loan Agreement", the terms defined therein being used herein as therein defined), among the undersigned, certain Lenders parties thereto and Bank of America, N.A., as Agent for said Lenders, and hereby gives you notice, irrevocably, pursuant to Section 2.02 of the Term Loan Agreement that the undersigned hereby requests a Borrowing under the Term Loan Agreement, and in that connection sets forth below the information relating to such Borrowing (the "Proposed Borrowing") as required by Section 2.02(a) of the Term Loan Agreement:

(i) The Business Day of the Proposed Borrowing is _______________, 201_.

(ii) The Type of Advances comprising the Proposed Borrowing is [Base Rate Advances] [Eurodollar Rate Advances].

(iii) The aggregate amount of the Proposed Borrowing is $300,000,000.

[(iv) The initial Interest Period for each Eurodollar Rate Advance made as part of the Proposed Borrowing is _____ month[s].]

The undersigned hereby certifies that the following statements are true on the date hereof, and will be true on the date of the Proposed Borrowing:

(A) the representations and warranties contained in Section 4.01 of the Term Loan Agreement are correct, before and after giving effect to the Proposed Borrowing and to the application of the proceeds therefrom, as though made on and as of such date; and

(B) no event has occurred and is continuing, or would result from such Proposed Borrowing or from the application of the proceeds therefrom, that constitutes a Default.

Very truly yours,

CA, INC.

By__

Title:

CUSIP Number:____________________

EXHIBIT C - FORM OF
ASSIGNMENT AND ASSUMPTION

ASSIGNMENT AND ASSUMPTION

This Assignment and Assumption (the "Assignment and Assumption") is dated as of the Effective Date set forth below and is entered into by and between [the][each][11] Assignor identified in item 1 below ([the][each, an] "Assignor") and [the][each][12] Assignee identified in item 2 below ([the][each, an] "Assignee"). [It is understood and agreed that the rights and obligations of [the Assignors][the Assignees][13] hereunder are several and not joint.][14] Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement identified below (as amended, the "Credit Agreement"), receipt of a copy of which is hereby acknowledged by [the][each] Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set forth herein in full.

For an agreed consideration, [the][each] Assignor hereby irrevocably sells and assigns to [the Assignee][the respective Assignees], and [the][each] Assignee hereby irrevocably purchases and assumes from [the Assignor][the respective Assignors], subject to and in accordance with the Standard Terms and Conditions and the Credit Agreement, as of the Effective Date inserted by the Agent as contemplated below (i) all of [the Assignor's][the respective Assignors'] rights and obligations in [its capacity as a Lender][their respective capacities as Lenders] under the Credit Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of [the Assignor][the respective Assignors] under the Credit Agreement, and (ii) to the extent permitted to be assigned under applicable law, all claims, suits, causes of action and any other right of [the Assignor (in its capacity as a Lender)][the respective Assignors (in their respective capacities as Lenders)] against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (i) above (the rights and obligations sold and assigned by [the][any] Assignor to [the][any] Assignee pursuant to clauses (i) and (ii) above being referred to herein collectively as [the][an] "Assigned Interest"). Each such sale and assignment is without recourse to [the][any] Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by [the][any] Assignor.

1. Assignor[s]: ______________________________

____

[Assignor [is] [is not] a Defaulting Lender]

2.Assignee[s]: ______________________________

____

[for each Assignee, indicate [Affiliate][Approved Fund] of [*identify Lender*]

3.Borrower(s): CA, Inc.

4.Agent: Bank of America, N.A., as the agent under the Credit Agreement

5.Credit Agreement: The $300,000,000 Amended and Restated Term Loan Agreement dated as of April 20, 2018 among CA, Inc., the Lenders parties thereto, Bank of America, N.A., as Agent, and the other agents parties thereto

6.Assigned Interest[s]:

Assignor[s][15]	Assignee[s][16]	Aggregate Amount of Commitment/Advances for all Lenders[18]	Amount of Commitment/Advances Assigned[8]	Percentage Assigned of Commitment/ Advances[19]	CUSIP Number
		$	$	%	
		$	$	%	
		$	$	%	

[7. Trade Date: ______________][20]

[Page break]

Effective Date: _____________ ___, 20___ [TO BE INSERTED BY AGENT AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

The terms set forth in this Assignment and Assumption are hereby agreed to:

ASSIGNOR[S][21]
[NAME OF ASSIGNOR]

By:______________________________
Title:

[NAME OF ASSIGNOR]

By:______________________________
Title:

ASSIGNEE[S][22]
[NAME OF ASSIGNEE]

By:______________________________
Title:

[NAME OF ASSIGNEE]

By:______________________________
Title:

[Consented to and][23] Accepted:

BANK OF AMERICA, N.A., as
Agent

By: _________________________________
Title:

[Consented to:][24]

[NAME OF RELEVANT PARTY]

By: ______________________________
Title:

ANNEX 1

CA, Inc. Amended and Restated Term Loan Agreement dated as of April 20, 2018

STANDARD TERMS AND CONDITIONS FOR
ASSIGNMENT AND ASSUMPTION

1. Representations and Warranties.

1.1 Assignor[s]. [The][Each] Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of [the][the relevant] Assigned Interest, (ii) [the][such] Assigned Interest is free and clear of any lien, encumbrance or other adverse claim, (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and (iv) it is [not] a Defaulting Lender; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Credit Agreement or any collateral thereunder, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of the Credit Agreement, or (iv) the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under the Credit Agreement.

1.2. Assignee[s]. [The][Each] Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) it meets all the requirements to be an assignee under Section 8.07(b)(iii), (v) and (vi) of the Credit Agreement (subject to such consents, if any, as may be required under Section 8.07(b)(iii) of the Credit Agreement), (iii) from and after the Effective Date, it shall be bound by the provisions of the Credit Agreement as a Lender thereunder and, to the extent of [the][the relevant] Assigned Interest, shall have the obligations of a Lender thereunder, (iv) it is sophisticated with respect to decisions to acquire assets of the type represented by the Assigned Interest and either it, or the Person exercising discretion in making its decision to acquire the Assigned Interest, is experienced in acquiring assets of such type, (v) it has received a copy of the Credit Agreement, and has received or has been accorded the opportunity to receive copies of the most recent financial statements delivered pursuant to Section 5.01(k) thereof, as applicable, and such other documents and information as it deems appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase [the][such] Assigned Interest, (vi) it has, independently and without reliance upon the Agent or any other Lender and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Assignment and Assumption and to purchase [the][such] Assigned Interest, and (vii) if it is a Foreign Lender, attached to the Assignment and Assumption is any documentation required to be delivered by it pursuant to the terms of the Credit Agreement, duly completed and executed by [the][such] Assignee; and (b) agrees that (i) it will, independently and without reliance on the Agent, [the][any] Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Credit Agreement, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Credit Agreement are required to be performed by it as a Lender.

2. Payments. From and after the Effective Date, the Agent shall make all payments in respect of [the][each] Assigned Interest (including payments of principal, interest and other amounts) to [the][the relevant] Assignee whether such amounts have accrued prior to, on or after the Effective Date. The

Assignor[s] and the Assignee[s] shall make all appropriate adjustments in payments by the Agent for periods prior to the Effective Date or with respect to the making of this assignment directly between themselves.

3. General Provisions. This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment and Assumption by telecopy or other electronic transmission shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the law of the State of New York.

[INTENTIONALLY LEFT BLANK]

CA, INC.
EXECUTIVE RESTRICTED STOCK AWARD AGREEMENT

[Participant Name]   ("Participant")

Name of Participant

Total Number of Restricted Stock Shares Granted	**[Number of Restricted Shares Granted]**
Grant Date	**[Grant Date]**

THIS AGREEMENT, including, without limitation, Appendix A hereto, (this "Agreement") dated as of the date set forth above and entered into by and between CA, Inc., a Delaware corporation (the "Company") and the above-referenced Participant, provides for the grant of the number of shares of Restricted Stock under the CA, Inc. 2011 Incentive Plan (the "Plan") as set forth above. This Agreement incorporates by reference the terms of the Plan, and is subject to the terms of the Plan. In the event of any conflict between the terms of this Agreement and the terms of the Plan, the terms of the Plan will control. Except as otherwise provided in this Agreement, capitalized terms in this Agreement will have the meanings specified in the Plan.

1. **Grant of Restricted Shares**. This grant of Restricted Stock is made pursuant to Section 4.6 of the Plan. The Company hereby grants to the Participant the number of shares of Restricted Stock (the "Restricted Stock") set forth above on the grant date set forth above (the "Grant Date") subject to the vesting Restriction noted in Section 2 below and such other the terms outlined below.

2. **Vesting of Restricted Shares.** The Restricted Stock will vest with respect to 34% of the underlying shares of Restricted Stock on the first anniversary of the Grant Date and with respect to an additional 33% of the underlying shares of Restricted Stock on each of the second and third anniversaries of the Grant Date Shares of Restricted Stock shall fully vest upon the Participant’s death or Termination of Employment due to Disability. Except as otherwise provided in Section 6 of this Agreement, unvested shares of Restricted Stock shall be forfeited by the Participant upon the Participant's Termination of Employment, as defined in the Plan, for any reason other than death or Termination of Employment due to Disability, as defined in the Plan.

3. **Timing of Grant Acceptance.** Participant must electronically accept his/her grant of Restricted Stock award within 90 days from the Grant Date (the “Grant Acceptance Date”) or he/she will forfeit this Restricted Stock award. A Participant who forfeits his/her Restricted Stock award for failure to accept the award by the Grant Acceptance Date has no right of ownership or other rights as stockholder under this Restricted Stock award and may not be eligible for future Restricted Stock awards or other equity awards granted by the Company.

4. **Delivery of Restricted Stock.** Restricted Stock award shall be registered in the name of the Participant and the Restricted Stock will be held for the Participant by the Company until vesting. Upon grant of the shares of Restricted Stock, the Participant shall thereupon have all the rights of a stockholder with respect to such shares, including the right to vote and receive dividends or other distributions made or paid with respect to such shares, except that such shares shall be subject to the vesting and forfeiture provisions of Section 2 above. As promptly as practicable after the Restricted Stock has vested in accordance with Section 2, the Company shall deliver to the Participant (or in the event of the Participant's death, to the Participant’s estate or any person who acquires the Participant’s interest in the Restricted Stock by bequest or inheritance) the shares of the Common Stock of the Company.

5. **Restrictions on Transfer.** Shares of Restricted Stock that are included in this award may not be transferred by the Participant prior to vesting.

6. **Forfeiture and Recovery of Restricted Shares.** Notwithstanding any other provision of this Agreement or the Plan to the contrary, the Restricted Stock may be forfeited without consideration if the Participant, as determined by the Committee in its sole discretion, engages in any Prohibited Activities (as defined in Appendix A). If the Participant engages in any Prohibited Activities, the Participant shall, at the sole discretion of the Committee, return any shares of Common Stock or forfeit any gain realized in respect of Restricted Stock that vested within 12 months prior to the Participant's Termination of Employment (the "Affected Restricted Stock"). The gain pursuant to this Section 6 shall be deemed to be an amount equal to the Fair Market Value, on the applicable vesting date, of the shares of Common Stock deemed delivered to the Participant in respect of the Affected Restricted Stock (including any dividends and distributions thereon and any shares withheld to cover any portion of the tax withholding obligations). It will be at the Company's discretion as to whether shares of Common Stock or cash equal to the gain realized in respect of the Affected Restricted Stock shall be returned to the Company and such return or reimbursement shall be made by the Participant immediately after demand by the Company, but not later than ten days following such demand. The amount of the gain calculated pursuant to this Section 6 shall not take into account any taxes paid by or withheld from the Participant in respect of the Affected Restricted Stock.

   The foregoing provision will be applied in compliance with applicable laws, including, without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act, and the Participant will be subject to such forfeiture and recovery and reimbursement policies that the Company or any of its Related Companies may establish for any reason from time to time.

7. **Tax Withholding.** As a condition to the delivery of any shares pursuant to the vesting of the Restricted Stock, the Participant is required to pay tax withholding obligations that arise in connection with the vesting of the Restricted Stock. The Company shall satisfy the tax withholding obligations arising in connection with release of restrictions on Shares of Restricted Stock held by Participant (where withholding is required at the time of release of restrictions on Shares of Restricted Stock or as may be determined by the Company from time to time) by withholding shares of Common Stock that would otherwise be available for delivery upon the vesting of this award having a Fair Market Value on the date of the release equal to the minimum statutory withholding obligation or such other withholding obligation required by applicable law or require a Participant satisfy its withholding obligation in some other form as determined Company from time to time and in accordance with applicable law.

8. **Changes In Stock.** The Restricted Stock is subject to the adjustment provisions set forth in Sections 4.11, 5.3 and 5.4 of the Plan.

9. **No Guarantee of Employment or Service.** This award will not obligate the Company or any Related Company to retain the Participant in its employ or service for any period.

10. **Governing Law; Severability; Choice of Law.** This Agreement will be governed by the internal substantive laws, and not the choice of law rules, of the State of New York and construed accordingly, to the extent not superseded by applicable federal law. If any provision of the Agreement is held unlawful or otherwise invalid or unenforceable, in whole or in part, the unlawfulness, invalidity or unenforceability will not affect any other provision of this Agreement or part thereof, each of which will remain in full force and effect. Any action related to this Agreement shall be brought exclusively in the federal or state courts of the State of New York, County of Suffolk. The Participant will accept service of process as provided under New York law or by registered mail, return receipt requested, and waive any objection based upon *forum non conveniens* or as to personal jurisdiction over the Participant in federal or state courts of the State of New York, County of Suffolk. The choice of forum

set forth in this Section 10 shall not be deemed to preclude the enforcement of any judgment obtained in such forum in any other jurisdiction.

11. Acceptance and Acknowledgment. By accepting this Agreement, the Participant:

(a) accepts and acknowledges he or she must electronically accept this Restricted Stock award as specified in Section 3 of this Agreement or this award will be forfeited;

(b) upon electronic acceptance of this Restricted Stock awards, accepts and acknowledges receipt of the Restricted Stock which has been issued to the Participant under the terms and conditions of the Plan;

(c) acknowledges and confirms the Participant's acceptance and agreement to the collection, use and transfer, in electronic or other form, of personal information about the Participant, including, without limitation, the Participant's name, home address, and telephone number, date of birth, social security number or other identification number, and details of all the Participant's shares held and transactions related thereto, by the Company and its Related Companies and agents for the purpose of implementing, administrating and managing the Participant's participation in the Plan, and further understands and agrees that the Participant's personal information may be transferred to third parties assisting in the implementation, administration and management of the Plan, that any recipient may be located in the Participant's country or elsewhere, and that such recipient's country may have different data privacy laws and protections than the Participant's country;

(d) acknowledges and confirms the Participant's consent to receive electronically this Agreement, the Plan and the related Prospectus and any other Plan documents that the Company is required to deliver;

(e) acknowledges that a copy of the Plan and the related Prospectus is posted on the Company's website and that the Participant has access to such documents;

(f) agrees to be bound by the terms and conditions of this Agreement and the Plan (including, but not limited to, Section 7.5 of the Plan, Section 6 of this Agreement and Appendix A to this Agreement), as may be amended from time to time;

(g) acknowledges and confirms that (i) he or she may file an election pursuant to Section 83(b) of the Code to be taxed currently on the Fair Market Value of the shares of Restricted Stock (less any purchase price paid for such shares), provided that such election must be filed with the Internal Revenue Service no later than thirty (30) days after the grant of such shares and may seek the advice of his or her own tax advisors as to the advisability of making such a Section 83(b) election, the potential consequences of making such an election, the requirements for making such an election, and the other tax consequences of this award under federal, state, and any other laws that may be applicable, and (iii) the Company and its Subsidiaries and agents have not and are not providing any tax advice to the Participant;

(h) agrees to accept as binding, conclusive and final all decisions and interpretations of the Committee upon any questions related to the Plan or this Agreement;

(i) understands that neither Plan nor this Agreement gives the Participant any right to employment or service with the Company or any Related Company and that the Restricted Stock is not part of the Participant's normal or expected compensation; and

(j) understands and acknowledges that the grant of the Restricted Stock is expressly conditioned on the Participant's adherence to the terms of the applicable policies and procedures of the Company and its Related Companies.

12. **Entire Agreement.** This Agreement and the Plan and, to the extent applicable to the Participant, any written employment agreement between the Participant and the Company, constitute the entire agreement between the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements between the parties with respect to the subject matter hereof.

By: ____

Michael P. Gregoire
CEO

Appendix A

1. **Prohibited Activities.** The Participant recognizes that the Company is engaged in a highly competitive business and that its customer, employee, licensee, supplier and financial relationships are of a highly sensitive nature. As a reasonable means to protect the Company's Confidential Information (as defined in the subclause (a) below), investment, relationships, and goodwill, and in consideration for this Restricted Stock grant, the Participant agrees that, to the extent permitted by applicable law, the Participant will not, either during his or her employment or for a period of 12 months following the termination of his or her employment (or such longer period specified below) for any reason engage in any of the following "**Prohibited Activities**":

   (a) Engage in any business activity in a Restricted Area that competes with the business activities of the Company and its corporate affiliates about which Participant either had (i) a job responsibility to promote, or (ii) access to Confidential Information. "Restricted Area" for purposes of this Agreement, means a geographic area that the Participant served or covered on behalf of the Company at any time within the 18 months preceding the end of his or her employment with the Company. "**Confidential Information,**" for the purposes of this Agreement, means information, including information that is conceived or developed by the Participant that is not generally known to the public and that is used by the Company in connection with its business. By way of example, the term "Confidential Information" would include: trade secrets; processes; formulas; research data; program documentation; algorithms; source codes; object codes; know-how; improvements; inventions; techniques; training materials and methods; product information; corporate strategy; sales forecast and pipeline information; research and development; plans or strategies for marketing and pricing; and information concerning existing or potential customers, partners, or vendors. The Participant understands that this list is not all-inclusive and merely serves as examples of the types of information that falls within the definition of Confidential Information.

   (b) Solicit, call on, service or induce others to solicit, call on or service any "Customer" for the purpose of inducing it to license or lease a product or provide it with services that compete with a product or service offered by the Company. A "Customer," for purposes of this Agreement, means any person or business entity that licensed or leased a Company product or obtained Company services within the 18 months preceding the end of the Participant's employment with the Company and that the Participant had solicited, called on, or served on the Company's behalf anytime within that 18-month time period.

   (c) Solicit, call on, or induce others to solicit or call on, any "Prospective Customer" for the purpose of inducing it to license or lease a product or provide it with services which compete with a product or service offered by the Company. A "Prospective Customer," for purposes of this Agreement, is any person or business entity that the Participant solicited or called on (whether directly or through another Company agent at the Participant's direction) on behalf of the Company anytime within the 12 months preceding the end of the Participant's employment with the Company.

   (d) Directly or indirectly through others, hire any employee or contractor of the Company, or solicit or induce, or attempt to solicit or induce, any Company employee or contractor to leave the Company for any reason.

   (e) For any period following the termination of the Participant's employment, violate a non-competition, non-solicitation or non-disclosure covenant or agreement between the Participant and the Company or any Related Company (including, without limitation, the Employment and Confidentiality Agreement signed at or around the time of the Participant's hire).

Different restrictions apply if, at or prior to termination, the Participant was or had been a programmer, software engineer, analyst, support technician, quality assurance technician, technical documentation writer and/or a manager in a research and development capacity. If so, then the Participant's obligations under this Paragraph 1 shall be satisfied if the Participant does not, for one year following Termination of Employment for any reason, work on any program or product which may be competitive with any program or product of the Company with which the Participant was involved in a research and development or support capacity anytime within the 18 months preceding the end of the Participant's employment with the Company.

2. **Tolling of Covenants in the Event of Breach.** In the event the Participant engages in any of the Prohibited Activities, the time period of the violated covenant(s) shall be tolled throughout the duration of any violation and shall continue until the Participant has complied with such covenant(s) for a period of 12 consecutive full months.

3. **Injunction.** The Participant acknowledges that, by virtue of the Participant's employment with the Company, the Participant will have access to Confidential Information of the Company, the disclosure of which will irreparably harm the Company. The Participant further acknowledges that the Company will suffer irreparable harm if the Participant breaches any of the Participant's obligations under this Agreement. Therefore, the Participant agrees that the Company will be entitled, in addition to its other rights, to enforce the Participant's obligations through an injunction or decree of specific performance from a court having proper jurisdiction. Any claims the Participant may assert against the Company shall not constitute a defense in any injunction action brought by the Company to force the Participant to keep the promises the Participant made in this Agreement.

4. **Authorization to Modify Restrictions.** The Participant agrees that the restrictions contained in this Agreement are reasonable. However, if any court having proper jurisdiction holds a particular restriction to be unreasonable, that restriction shall be modified only to the extent necessary in the court's opinion to make it reasonable and the remaining provisions of this Agreement including without limitation Appendix A shall nonetheless remain in full force and effect. The other provisions of this Agreement are likewise severable.

5. **General.**

(a) The Participant understands and agrees that, if the Company is successful in a suit or proceeding to enforce any of the terms of this Agreement, the Participant will pay the Company's costs of bringing such suit or proceeding, including its reasonable attorney's fees and litigation expenses (including expert witness and deposition expenses).

(b) This Agreement shall inure to the benefit of and may be enforced by the Company, its successors and assigns. This Agreement is personal to the Participant and the Participant may not assign it.

(c) The Company’s rights under this Agreement shall be in addition to any rights it may have under any other Agreement with Participant.

(d) Any failure to enforce the terms of this Agreement with any other employee of the Company shall not be deemed a waiver by the Company to enforce its rights under this Agreement. Further, any waiver by the Company of any breach by the Participant of any provision of this Agreement, shall not operate or be construed as a waiver of any subsequent breach hereof.

Exhibit 12

CA, Inc.

STATEMENT OF RATIOS OF EARNINGS TO FIXED CHARGES

(in millions, except ratios)

	2014	2015	2016	2017	2018
Earnings available for fixed charges:					
Earnings from continuing operations before income taxes, minority interest and discontinued operations	$ 1,016	$ 1,115	$ 1,084	$ 1,073	$ 1,021
Add: Fixed charges	123	125	128	136	174
Total earnings available for fixed charges	$ 1,139	$ 1,240	$ 1,212	$ 1,209	$ 1,195
Fixed charges:					
Interest expense (1)	$ 75	$ 77	$ 81	$ 90	$ 127
Interest portion of rental expense	48	48	47	46	47
Total fixed charges	$ 123	$ 125	$ 128	$ 136	$ 174
RATIOS OF EARNINGS TO FIXED CHARGES	9.26	9.92	9.47	8.89	6.87
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 subsidiaries which, considered in the aggregate, would not constitute a significant subsidiary.

Name of Subsidiary	Jurisdiction of Incorporation or Organization
Automic Holding GmbH	Austria
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 Holding Limited	United Kingdom
Computer Associates Luxembourg S.a.r.l.	Luxembourg
Veracode, Inc.	Delaware

Exhibit 23

Consent of Independent Registered Public Accounting Firm

The Board of Directors

CA, Inc.:

We consent to the incorporation by reference in the registration statement (No. 333-218008) on Form S-3 and the registration statements (Nos. 333-220669, 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 9, 2018, with respect to the consolidated balance sheets of CA, Inc. and subsidiaries as of March 31, 2018 and 2017, 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, 2018, and the related notes and financial statement schedule (collectively, the "consolidated financial statements"), and the effectiveness of internal control over financial reporting as of March 31, 2018, which report appears in the March 31, 2018 annual report on Form 10-K of CA, Inc.

/s/ KPMG LLP

New York, New York

May 9, 2018

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, Ava M. Hahn, 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, 2018 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 9th day of May, 2018.

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/ Jean M. Hobby

Jean M. Hobby

/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

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 9, 2018	/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 9, 2018

/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, 2018 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 9, 2018

/s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer
May 9, 2018

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.