

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

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 1-9247

CA, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

**520 Madison Avenue,
New York, New York**

(Address of principal executive offices)

13-2857434

(I.R.S. Employer
Identification Number)

10022

(Zip Code)

1-800-225-5224

(Registrant's telephone number, including area code)

Not applicable

(Former name, former address and former fiscal year, if changed since last report)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

(Check one:)

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date:

Title of Class	Shares Outstanding
Common Stock par value \$0.10 per share	as of October 31, 2018 418,222,273

CA, INC. AND SUBSIDIARIES

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PART I. FINANCIAL INFORMATION

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors

CA, Inc.:

Results of Review of Interim Financial Information

We have reviewed the condensed consolidated balance sheet of CA, Inc. and subsidiaries as of September 30, 2018, the related condensed consolidated statements of operations and comprehensive income for the three-month and six-month periods ended September 30, 2018 and 2017, the related condensed consolidated statements of cash flows for the six-month periods ended September 30, 2018 and 2017, and the related notes (collectively, the consolidated interim financial information). Based on our reviews, we are not aware of any material modifications that should be made to the consolidated interim financial information for it to be in conformity with U.S. generally accepted accounting principles.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated balance sheet of the Company as of March 31, 2018, and the related consolidated statements of operations, comprehensive income, stockholders’ equity, and cash flows for the year then ended (not presented herein); and in our report dated May 9, 2018, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated balance sheet as of March 31, 2018, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results

This consolidated interim financial information is the responsibility of the Company’s management. We are a public accounting firm registered with the 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 reviews in accordance with the standards of the PCAOB. A review of consolidated interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ KPMG LLP

New York, New York

November 7, 2018

Item 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

CA, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(in millions, except share amounts)

	September 30, 2018	March 31, 2018
	<i>(unaudited)</i>	
Assets		
Current assets:		
Cash and cash equivalents	\$ 2,931	\$ 3,405
Trade accounts receivable, net of allowance for doubtful accounts of \$9 and \$10, respectively	507	793
Contract assets	817	—
Other current assets	107	210
Total current assets	\$ 4,362	\$ 4,408
Property and equipment, net of accumulated depreciation of \$822 and \$865, respectively	213	237
Goodwill	6,790	6,804
Capitalized software and other intangible assets, net	981	1,111
Deferred income taxes	124	346
Contract assets	112	—
Contract costs	400	—
Other noncurrent assets, net	121	154
Total assets	\$ 13,103	\$ 13,060
Liabilities and stockholders' equity		
Current liabilities:		
Current portion of long-term debt	\$ 20	\$ 269
Accounts payable	81	85
Accrued salaries, wages and commissions	201	242
Accrued expenses and other current liabilities	309	340
Deferred revenue and advanced payments	1,002	2,289
Taxes payable, other than income taxes payable	25	55
Federal, state and foreign income taxes payable	72	41
Total current liabilities	\$ 1,710	\$ 3,321
Long-term debt, net of current portion	2,506	2,514
Federal, state and foreign income taxes payable	297	311
Deferred income taxes	171	111
Deferred revenue and advanced payments	419	820
Other noncurrent liabilities	98	88
Total liabilities	\$ 5,201	\$ 7,165
Stockholders' equity:		
Preferred stock, no par value, 10,000,000 shares authorized; No shares issued and outstanding	\$ —	\$ —
Common stock, \$0.10 par value, 1,100,000,000 shares authorized; 589,695,081 and 589,695,081 shares issued; 413,476,935 and 412,056,923 shares outstanding, respectively	59	59
Additional paid-in capital	3,735	3,744
Retained earnings	9,156	6,971
Accumulated other comprehensive loss	(463)	(290)
Treasury stock, at cost, 176,218,146 and 177,638,158 shares, respectively	(4,585)	(4,589)
Total stockholders' equity	\$ 7,902	\$ 5,895
Total liabilities and stockholders' equity	\$ 13,103	\$ 13,060

Effective April 1, 2018, the Company adopted Topic 606 utilizing the modified retrospective method. As a result, the financial statements are not comparable to the prior period presented. See accompanying Notes to the Condensed Consolidated Financial Statements for details.

CA, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(unaudited)

(in millions, except per share amounts)

	For the Three Months Ended September 30,		For the Six Months Ended September 30,	
	2018	2017	2018	2017
Revenue:				
Software licenses and maintenance	\$ 824	\$ 959	\$ 1,694	\$ 1,909
Professional services	71	75	139	150
Total revenue	\$ 895	\$ 1,034	\$ 1,833	\$ 2,059
Expenses:				
Costs of licensing and maintenance	\$ 74	\$ 73	\$ 150	\$ 144
Cost of professional services	64	74	134	147
Amortization of capitalized software costs	49	67	109	137
Selling and marketing	252	244	487	490
General and administrative	99	97	203	204
Product development and enhancements	158	161	320	319
Depreciation and amortization of other intangible assets	28	27	54	53
Other expenses, net	4	9	107	20
Total expenses before interest and income taxes	\$ 728	\$ 752	\$ 1,564	\$ 1,514
Income before interest and income taxes	\$ 167	\$ 282	\$ 269	\$ 545
Interest expense, net	19	24	39	49
Income before income taxes	\$ 148	\$ 258	\$ 230	\$ 496
Income tax expense (benefit)	19	74	(65)	134
Net income	\$ 129	\$ 184	\$ 295	\$ 362
Basic income per common share	\$ 0.31	\$ 0.44	\$ 0.70	\$ 0.86
Basic weighted average shares used in computation	413	415	414	415
Diluted income per common share	\$ 0.31	\$ 0.44	\$ 0.70	\$ 0.86
Diluted weighted average shares used in computation	416	416	416	416

Effective April 1, 2018, the Company adopted Topic 606 utilizing the modified retrospective method. As a result, the financial statements are not comparable to the prior period presented. See accompanying Notes to the Condensed Consolidated Financial Statements for details.

CA, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(unaudited)
(in millions)

	For the Three Months Ended September 30,		For the Six Months Ended September 30,	
	2018	2017	2018	2017
Net income	\$ 129	\$ 184	\$ 295	\$ 362
Other comprehensive (loss) income:				
Foreign currency translation adjustments	(23)	48	(164)	132
Total other comprehensive (loss) income	\$ (23)	\$ 48	\$ (164)	\$ 132
Comprehensive income	\$ 106	\$ 232	\$ 131	\$ 494

Effective April 1, 2018, the Company adopted Topic 606 utilizing the modified retrospective method. As a result, the financial statements are not comparable to the prior period presented. See accompanying Notes to the Condensed Consolidated Financial Statements for details.

CA, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)
(in millions)

	For the Six Months Ended September 30,	
	2018	2017
Operating activities:		
Net income	\$ 295	\$ 362
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	163	190
Deferred income taxes	(12)	(23)
Provision for bad debts	—	2
Share-based compensation expense	68	61
Other non-cash items	5	2
Foreign currency transaction (gains) losses	(4)	9
Changes in other operating assets and liabilities, net of effect of acquisitions:		
Decrease in trade accounts receivable	279	317
Increase in contract assets	(26)	—
Decrease in contract costs	18	—
Decrease in deferred revenue and advanced payments	(314)	(460)
Decrease in taxes payable, net	(258)	(58)
Increase in accounts payable, accrued expenses and other	33	11
Decrease in accrued salaries, wages and commissions	(34)	(81)
Changes in other operating assets and liabilities, net	38	3
Net cash provided by operating activities	\$ 251	\$ 335
Investing activities:		
Acquisitions of businesses, net of cash acquired, and purchased software	\$ (25)	\$ (15)
Purchases of property and equipment	(24)	(22)
Other investing activities	(1)	(1)
Net cash used in investing activities	\$ (50)	\$ (38)
Financing activities:		
Dividends paid	\$ (214)	\$ (215)
Purchases of common stock	(80)	(90)
Notional pooling borrowings	1,076	1,173
Notional pooling repayments	(1,053)	(1,204)
Debt repayments	(259)	(9)
Debt issuance costs	—	(3)
Exercise of common stock options	21	5
Payments related to tax withholding for share-based compensation	(40)	(35)
Other financing activities	(9)	(3)
Net cash used in financing activities	\$ (558)	\$ (381)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(118)	136
(Decrease) increase in cash, cash equivalents and restricted cash	\$ (475)	\$ 52
Cash, cash equivalents and restricted cash at beginning of period	3,407	2,772
Cash, cash equivalents and restricted cash at end of period	\$ 2,932	\$ 2,824

Effective April 1, 2018, the Company adopted Topic 606 utilizing the modified retrospective method. As a result, the financial statements are not comparable to the prior period presented. See accompanying Notes to the Condensed Consolidated Financial Statements for details.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 – ACCOUNTING POLICIES

Basis of Presentation: The accompanying unaudited condensed consolidated financial statements (“Condensed Consolidated Financial Statements”) of CA, Inc. and its subsidiaries (the “Company”) as of and for the periods ended September 30, 2018 reflect the adoption of Topic 606 (as defined below) on April 1, 2018 using the modified retrospective method. The accompanying Condensed Consolidated Balance Sheet as of March 31, 2018 and the Condensed Consolidated Statements of Operations, Comprehensive Income and Cash Flows for the periods ended September 30, 2017 have not been revised for the effects of Topic 606 and are therefore not comparable to the September 30, 2018 periods.

The Condensed Consolidated Financial Statements of the Company have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”), as defined in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 270, for interim financial information and in accordance with the instructions to Form 10-Q and Article 10 of Securities and Exchange Commission Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements and therefore should be read in conjunction with the Company’s consolidated financial statements and notes thereto included in the Company’s Annual Report on Form 10-K for the fiscal year ended March 31, 2018 (“2018 Form 10-K”). In the opinion of the Company’s management, all adjustments considered necessary for a fair presentation have been included. All such adjustments are of a normal, recurring nature.

The preparation of financial statements in conformity with GAAP requires the Company’s 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.

Operating results for the three and six months ended September 30, 2018 are not necessarily indicative of the results that may be expected for the fiscal year ending March 31, 2019.

Cash, Cash Equivalents and Restricted Cash: The Company’s cash and cash equivalents are held in numerous locations throughout the world, with approximately 53% being held by the Company’s foreign subsidiaries outside the United States at September 30, 2018.

At September 30, 2018 and March 31, 2018, the total amount of restricted cash included in “Other noncurrent assets, net” in the Company’s Condensed Consolidated Balance Sheets was approximately \$1 million and \$2 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 Condensed Consolidated Statements of Cash Flows for the six months ended September 30, 2018 and 2017.

New Accounting Pronouncements:

New Accounting Pronouncements Recently 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, creating new ASC Topic 606 (“Topic 606”) that replaces most existing revenue recognition guidance in GAAP. Topic 606 was adopted by the Company effective April 1, 2018 using the modified retrospective method. Reporting periods prior to the adoption of Topic 606 were presented in accordance with ASC Topic 605 (“Topic 605”). As a result of adopting Topic 606, the Company now recognizes revenue for the license component of all its on-premise software arrangements at the point-in-time control of the software license is transferred to the customer, rather than ratably over the term of the contract. The Company reflected the impact of the changes at transition with a cumulative increase of approximately \$2,104 million to the opening balance of retained earnings. Refer to Note 2, “Revenue from Contracts with Customers,” and Note 3, “Impact of Adopting Topic 606,” for a discussion of the changes in the Company’s policies for revenue recognition and commissions, and the required disclosures related to the impact of adopting Topic 606. Refer to the Company’s Annual Report on Form 10-K for policies in accordance with Topic 605.

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 was adopted by the Company when effective in first quarter of fiscal year 2019 using the modified retrospective method of adoption. The adoption of this standard did not have a material effect on the Company’s consolidated financial statements and related disclosures.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

New Accounting Pronouncements Not Yet Adopted

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (“ASU 2016-02”), *Leases* (Topic 842), with amendments in 2018, requiring 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 in the first quarter of fiscal year 2020 and requires the modified retrospective method of adoption, with an option to recognize the cumulative effect of applying the new standard as an adjustment to the opening balance of retained earnings. Early adoption is permitted. The Company will adopt ASU 2016-02 when effective in the first quarter of fiscal year 2020. Although the Company is currently evaluating 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 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 in the 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 in the 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 Cuts and Jobs Act enacted on December 22, 2017 (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 in the 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.

In August 2018, the FASB issued Accounting Standards Update No. 2018-13 (“ASU 2018-13”), *Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* (Topic 820), which modifies the disclosure requirements on fair value measurements. ASU 2018-13 will be effective for the Company in the first quarter of fiscal year 2021. Early adoption is permitted. Although the Company is currently evaluating the timing of adoption of ASU 2018-13, it does not currently expect the adoption to have a material effect on its consolidated financial statements and related disclosures.

In August 2018, the FASB issued Accounting Standards Update No. 2018-15 (“ASU 2018-15”), *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* (Subtopic 350-40), which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 will be effective for the Company in the first quarter of fiscal year 2021. Early adoption is permitted. The Company is currently evaluating the timing of adoption and the effect that ASU 2018-15 will have on its consolidated financial statements and related disclosures.

Reclassifications: As a result of the adoption of Topic 606 on a modified retrospective basis, the Company's presentation of prior year revenue in its Condensed Consolidated Statement of Operations has been revised to combine the previously reported revenue line items “Subscription and maintenance” and “Software fees and other” into the revenue line item “Software licenses and maintenance” in the current year presentation. This reclassification had no effect on total revenue as previously reported for the three and six months ended September 30, 2017. Refer to Note 3, “Impact of Adopting Topic 606,” for the transitional disclosures required by Topic 606.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Other Information: On July 11, 2018, the Company, Broadcom Inc. (“Broadcom”), and Collie Acquisition Corp., a Delaware corporation and a wholly owned subsidiary of Broadcom (“Merger Sub”) entered into an Agreement and Plan of Merger (the “Merger Agreement”). The transaction closed on November 5, 2018. Pursuant to the terms of the Merger Agreement, effective as of the closing, Merger Sub was merged with and into the Company (the “Merger”), with the Company surviving the Merger and becoming a wholly owned subsidiary of Broadcom. Under the Merger Agreement, at the effective time of the Merger, each issued and outstanding share of Company common stock (other than shares that were (i) owned or held in treasury by the Company or owned by Broadcom or Merger Sub and (ii) owned by any wholly owned subsidiary of Broadcom or of the Company) was cancelled and automatically converted into the right to receive \$44.50 in cash, without interest. On November 5, 2018, following the consummation of the Merger, the Company’s common stock was delisted from the NASDAQ Global Select Market (“NASDAQ”) and deregistered under the Exchange Act. Trading of the Company’s common stock on NASDAQ was halted prior to the opening of trading on November 5, 2018.

NOTE 2 – REVENUE FROM CONTRACTS WITH CUSTOMERS

In accordance with Topic 606, the Company accounts for a customer contract when both parties have approved the contract and are committed to perform their respective obligations, each party’s rights can be identified, payment terms can be identified, the contract has commercial substance, and it is probable the Company will collect substantially all of the consideration to which it is entitled. Revenue is recognized when, or as, performance obligations are satisfied by transferring control of a promised product or service to a customer.

A. Nature of products and services

The Company’s products and services can be broadly categorized as perpetual licenses to use software, term-based licenses for Software-as-a-Service (“SaaS”) and on-premise use of software, maintenance for perpetual and term-based on-premise licenses, and professional services. The Company’s software licenses and maintenance are for mainframe, enterprise, and SaaS computing environments.

Perpetual licenses: The Company sells perpetual licenses which provide customers the right to use software for an indefinite period of time in exchange for a one-time license fee, which may be paid either at contract inception or in installments over the contract term. The Company’s on-premise software licenses have standalone functionality from which customers derive a substantial portion of the benefit. Accordingly, for perpetual licenses, revenue is recognized at the point-in-time when the customer is able to use and benefit from the software, which is generally upon delivery to the customer.

Term-based arrangements: Term-based arrangements consists of on-premise term licenses, SaaS solutions, as well as maintenance.

- **On-premise term licenses:** The Company sells term licenses which provide customers the right to use software for a specified period of time. Like perpetual licenses, the Company’s term licenses have standalone functionality from which customers derive a substantial portion of the benefit. Accordingly, for on-premise term licenses, revenue is generally recognized at the point-in-time when the customer is able to use and benefit from the software, which is generally upon delivery to the customer or upon the commencement of the renewal term. Payments for term licenses may be paid either at contract inception or in installments over the period of the term licenses.
- **SaaS solutions:** The Company offers cloud-based solutions that provide customers the right to access the Company’s software through the internet for a period of time. The payment for SaaS solutions may be received either at inception of the arrangement, or over the term of the arrangement. The Company’s SaaS solutions represent a series of distinct services that are substantially the same and have the same pattern of transfer to the customer. Revenue from a SaaS solution is generally recognized ratably over the term of the arrangement. Revenue related to SaaS solutions provided on a usage basis, such as the number of users, is recognized based on customer’s utilization of the service in a given period.
- **Maintenance:** Maintenance is provided for both perpetual and on-premise term license arrangements, and consists primarily of telephone support and the provision of unspecified updates and upgrades on a when-and-if-available basis. Maintenance for perpetual licenses is renewable, generally on an annual basis, at the option of the customer. Maintenance for on-premise term-based licenses is always renewed concurrently with the term-based licenses for the same duration of time. Maintenance represents stand-ready obligations for which revenue is recognized ratably over the term of the arrangement. Payments for maintenance may be paid either at inception of the maintenance period or in installments over the term of the maintenance period.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Professional services: Professional services consist of product implementation, consulting, customer education and customer training services. Payment for professional services is generally a fixed fee or a fee based on time and materials. The obligation to provide professional services is generally satisfied over time, with the customer simultaneously receiving and consuming the benefits as the Company satisfies its performance obligations. For professional services, revenue is recognized by measuring progress toward the complete satisfaction of the Company's obligation. Progress for services that are contracted for a fixed price is generally measured based on hours incurred as a portion of total estimated hours, and as a practical expedient, progress for services that are contracted for time and materials is generally based on the amount the Company has the right to invoice.

Material rights

Contracts with customers may include material rights which are also performance obligations. Material rights primarily arise when the contract gives the customer the right to renew or receive products or services at a discounted price in the future. Revenue allocated to material rights is recognized when the customer exercises the right or the right expires. If exercised by the customer, revenue is classified consistent with the products or services obtained through the exercise of the right. If expired, revenue is classified consistent with the products or services in the contract that gave rise to the material right.

Arrangements with multiple performance obligations

The Company's contracts generally contain more than one of the products and services listed above, each of which is separately accounted for as a distinct performance obligation.

Allocation of consideration: The Company allocates total contract consideration to each distinct performance obligation in an arrangement on a relative standalone selling price basis. The standalone selling price reflects the price the Company would charge for a specific product or service if it was sold separately in similar circumstances and to similar customers.

If the arrangement contains professional services and other products or services, the Company first allocates to the professional service obligation a portion of the total contract consideration equal to the standalone selling price of professional services that is observed from consistently priced standalone sales. The Company allocates the remaining consideration among the other products and services in the contract on a relative standalone selling price basis.

The standalone selling price for perpetual and on-premise term licenses, which are always sold with maintenance, is the price for the combined license and maintenance bundle. The amount assigned to the license and maintenance bundle is separated into license and maintenance amounts using the respective standalone selling prices represented by the value relationship between the software license and maintenance.

When two or more contracts are entered into at or near the same time with the same customer, the Company evaluates the facts and circumstances associated with the negotiation of those contracts. Where the contracts are negotiated as a package, the Company will account for them as a single arrangement and allocate the consideration for the combined contracts among the performance obligations accordingly.

Standalone selling price: When available, the Company uses directly observable transactions to determine the standalone selling prices for performance obligations. Observable data is available for maintenance renewals on previously sold perpetual licenses and SaaS. When perpetual or term licenses are sold together with maintenance in a bundled arrangement, the Company estimates a narrow range of standalone selling price using observable pricing information from standalone sales of the bundle, when available, and other relevant information, such as market conditions and pricing strategies.

The value relationship the Company uses to allocate consideration between the license and maintenance performance obligations is derived from the observable relationship of the selling price of a standalone perpetual license maintenance renewal to the related perpetual license fee, which is generally 20% of the net license fee for one year of maintenance. The Company separates the license and maintenance performance obligations of a term license and maintenance bundle using the same observable value relationship as in a perpetual license and maintenance bundle because the nature of the maintenance performance obligation and its value relationship with the right to use the software were determined to be similar.

Arrangements that include a software license sold with more than one year of maintenance for the license use a value relationship which reflects an annual maintenance rate of 20% of the total value ascribed to the right to use the software. As a result, a greater portion of the bundle relates to maintenance as the length of the maintenance period included in the bundle increases.

The Company separately determines the standalone selling prices by geographic region, distribution channel and by volume when the pricing strategies include volume purchase discounts.

The Company also estimates the standalone selling prices of its material rights, which primarily include contractually stated amounts that the customer can use to acquire additional products and services. The Company estimates the value of these rights by considering the stated amount and the likelihood of the customer exercising its right. In addition, an option to purchase or receive additional products or services at a discounted price is estimated as the incremental discount the customer would obtain when exercising the option and the likelihood that the option would be exercised.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Other policies and judgments

Payment terms and conditions vary by contract type, although terms generally include a requirement of payment within 30 to 60 days of the invoice. In certain arrangements, the Company receives payment from a customer either before or after the performance obligation has been satisfied, however, the Company's contracts generally do not contain a significant financing component.

The Company may modify contracts to offer customers additional products or services. The additional products and services will generally be considered distinct from those products or services transferred to the customer before the modification and will generally be accounted for as a separate contract. The Company evaluates whether the price for the additional products and services reflects the standalone selling price adjusted as appropriate for facts and circumstances applicable to that contract. In determining whether an adjustment is appropriate, the Company evaluates whether the incremental consideration is consistent with the prices previously paid by the customer or similar customers.

The Company reduces transaction price for an estimate of returns that is based on historical data.

B. Disaggregation

The disaggregation of revenue by region, type of performance obligation, timing of revenue recognition, and segment was as follows:

<i>(in millions)</i>	Three Months Ended September 30, 2018	Six Months Ended September 30, 2018
Revenue by region:		
United States	\$ 592	\$ 1,164
EMEA ⁽¹⁾	186	415
Other	117	254
Total revenue	\$ 895	\$ 1,833
Revenue by type of performance obligation:		
Perpetual licenses	\$ 70	\$ 146
Renewable:		
On-premise term licenses	157	350
Maintenance	473	960
SaaS	124	238
Professional services	71	139
Total revenue	\$ 895	\$ 1,833
Timing of revenue recognition:		
Point-in-time, including professional services	\$ 297	\$ 634
Over time	598	1,199
Total revenue	\$ 895	\$ 1,833
Revenue by segment:		
Mainframe Solutions	\$ 388	\$ 828
Enterprise Solutions	436	866
Services	71	139
Total revenue	\$ 895	\$ 1,833

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

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NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

C. Contract Balances

The Company's contract assets and deferred revenue balances for the periods indicated below were as follows:

<i>(in millions)</i>	Contract Assets		Deferred Revenue	
Balance at April 1, 2018	\$	931	\$	1,751
Balance at September 30, 2018	\$	929	\$	1,421

The difference in the opening and closing balances of the Company's contract assets and deferred revenue primarily results from the timing difference between the Company's performance and the customer's payment. The Company fulfills its obligations under a contract with a customer by transferring products and services in exchange for consideration from the customer. The Company recognizes a contract asset when it transfers products or services to a customer and the right to consideration is conditional on something other than the passage of time. Accounts receivable are recorded when the customer has been billed or the right to consideration is unconditional. The Company recognizes deferred revenue when it has received consideration or an amount of consideration is due from the customer and the Company has a future obligation to transfer products or services. Deferred revenue includes amounts billed or collected and advanced payments on contracts which may include termination for convenience clauses. The amount of revenue recognized during the six months ended September 30, 2018 that was included in the deferred revenue balance at April 1, 2018 was \$770 million.

D. Transaction Price Allocated to the Remaining Performance Obligations

The following table discloses the aggregate amount of the transaction price and advanced payments allocated to remaining performance obligations as of the end of the reporting period, and when the Company expects to recognize the revenue.

<i>(in millions)</i>	12 months or less		Greater than 12 months ⁽¹⁾	
Perpetual licenses	\$	10	\$	11
Renewable:				
On-premise term licenses	\$	231	\$	113
Maintenance	\$	1,464	\$	1,632
SaaS	\$	345	\$	221
Professional services	\$	61	\$	31
Material rights	\$	3	\$	178

(1) Of the amount of performance obligations greater than 12 months, the portion that is 2 to 3 years is approximately \$1.7 billion and the remaining amount is generally between 4 and 5 years.

The Company's multi-year contracts with government customers may have termination for convenience clauses. Approximately \$105 million of advanced payments received from government customers that have termination for convenience rights are included in "Deferred revenue and advanced payments" in the Company's Condensed Consolidated Balance Sheet and allocated to the remaining performance obligations in the table above. In addition, approximately \$574 million related to the remaining unbilled contract value and performance obligations in these contracts with termination for convenience clauses are not included in the allocation of transaction price and not included in "Deferred revenue and advanced payments" in the Company's Condensed Consolidated Balance Sheet.

E. Contract Costs

The Company pays commissions for new product sales as well as for renewals of existing contracts. Commissions paid to obtain renewal contracts are not commensurate with the commissions paid for new product sales and therefore, a portion of the commissions paid for new contracts relate to future renewals.

The Company accounts for commissions using a portfolio approach and allocates the cost of commissions in proportion to the allocation of transaction price of license and maintenance performance obligations, including assumed renewals. Commissions allocated to the license and license renewal components are expensed at the time the license revenue is recognized. Commissions allocated to maintenance are capitalized and amortized on a straight-line basis over a period of seven years for new contracts, reflecting the Company's estimate of the expected period that the Company will benefit from those commissions. Commissions paid on renewal contracts that are allocated to maintenance are capitalized and amortized over the renewal term of approximately three years. Service contracts are generally less than one year and accordingly, as a practical expedient, commissions paid for service contracts are expensed as incurred.

Amortization of capitalized contract costs is included in "Selling and marketing" expenses in the Company's Condensed Consolidated Statement of Operations. The amount of amortization for the three and six months ended September 30, 2018 was approximately \$31 million and \$61 million, respectively, and there was no impairment loss in relation to the costs capitalized.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 3 – IMPACT OF ADOPTING TOPIC 606

The Company adopted Topic 606 using the modified retrospective method. The cumulative effect of applying the new guidance to all contracts with customers that were not completed at March 31, 2018 was recorded as an adjustment to retained earnings as of the adoption date. As a result of applying the modified retrospective method to adopt Topic 606, the following adjustments were made to the opening balances of the Condensed Consolidated Balance Sheet accounts:

Condensed Consolidated Balance Sheet <i>(in millions)</i>	As Reported March 31, 2018	Adjustments Due to Topic 606	Adjusted April 1, 2018
Assets			
Current assets:			
Cash and cash equivalents	\$ 3,405	\$ —	\$ 3,405
Trade accounts receivable, net	793	9	802
Contract assets	—	772	772
Other current assets	210	(38)	172
Total current assets	\$ 4,408	\$ 743	\$ 5,151
Property and equipment, net	237	—	237
Goodwill	6,804	—	6,804
Capitalized software and other intangible assets, net	1,111	—	1,111
Deferred income taxes	346	(221)	125
Contract assets	—	159	159
Contract costs	—	427	427
Other noncurrent assets, net	154	(19)	135
Total assets	\$ 13,060	\$ 1,089	\$ 14,149
Liabilities and stockholders' equity			
Current liabilities:			
Current portion of long-term debt	\$ 269	\$ —	\$ 269
Accounts payable	85	—	85
Accrued salaries, wages and commissions	242	—	242
Accrued expenses and other current liabilities	340	(8)	332
Deferred revenue and advanced payments	2,289	(1,067)	1,222
Taxes payable, other than income taxes payable	55	—	55
Federal, state and foreign income taxes payable	41	170	211
Total current liabilities	\$ 3,321	\$ (905)	\$ 2,416
Long-term debt, net of current portion	2,514	—	2,514
Federal, state and foreign income taxes payable	311	110	421
Deferred income taxes	111	80	191
Deferred revenue and advanced payments	820	(291)	529
Other noncurrent liabilities	88	—	88
Total liabilities	\$ 7,165	\$ (1,006)	\$ 6,159
Stockholders' equity:			
Preferred stock	\$ —	\$ —	\$ —
Common stock	59	—	59
Additional paid-in capital	3,744	—	3,744
Retained earnings	6,971	2,104	9,075
Accumulated other comprehensive loss	(290)	(9)	(299)
Treasury stock	(4,589)	—	(4,589)
Total stockholders' equity	\$ 5,895	\$ 2,095	\$ 7,990
Total liabilities and stockholders' equity	\$ 13,060	\$ 1,089	\$ 14,149

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

In connection with the adoption of Topic 606, the Company increased its retained earnings by approximately \$2,104 million. This increase was a result of a decrease in deferred revenue of approximately \$1,358 million and the establishment of contract assets of approximately \$931 million for amounts that would have been recognized under Topic 606 prior to April 1, 2018. In addition, upon adoption of Topic 606, the Company capitalized contract costs of approximately \$427 million relating to commissions incurred to obtain customer contracts. Refer to Note 2 “Revenue from Contracts with Customers” for additional details on contract costs.

The net change in deferred income taxes of approximately \$301 million and income taxes payable of approximately \$280 million is primarily due to the current and deferred tax effects resulting from the aforementioned items.

In addition, the Company made other changes, primarily due to professional services, to our Condensed Consolidated Balance Sheet on April 1, 2018 to comply with Topic 606.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

The following table compares the Condensed Consolidated Balance Sheet at September 30, 2018 to the proforma amounts had the previous standard of Topic 605 been in effect:

Condensed Consolidated Balance Sheet (in millions)	At September 30, 2018		
	As Reported under Topic 606	Proforma as if the previous accounting of Topic 605 was in effect	Effect of Change Higher/(Lower)
Assets			
Current assets:			
Cash and cash equivalents	\$ 2,931	\$ 2,931	\$ —
Trade accounts receivable, net	507	502	5
Contract assets	817	—	817
Other current assets	107	183	(76)
Total current assets	\$ 4,362	\$ 3,616	\$ 746
Property and equipment, net	213	213	—
Goodwill	6,790	6,790	—
Capitalized software and other intangible assets, net	981	981	—
Deferred income taxes	124	338	(214)
Contract assets	112	—	112
Contract costs	400	—	400
Other noncurrent assets, net	121	136	(15)
Total assets	\$ 13,103	\$ 12,074	\$ 1,029
Liabilities and stockholders' equity			
Current liabilities:			
Current portion of long-term debt	\$ 20	\$ 20	\$ —
Accounts payable	81	81	—
Accrued salaries, wages and commissions	201	201	—
Accrued expenses and other current liabilities	309	319	(10)
Deferred revenue and advanced payments	1,002	1,826	(824)
Taxes payable, other than income taxes payable	25	25	—
Federal, state and foreign income taxes payable	72	—	72
Total current liabilities	\$ 1,710	\$ 2,472	\$ (762)
Long-term debt, net of current portion	2,506	2,506	—
Federal, state and foreign income taxes payable	297	187	110
Deferred income taxes	171	98	73
Deferred revenue and advanced payments	419	638	(219)
Other noncurrent liabilities	98	98	—
Total liabilities	\$ 5,201	\$ 5,999	\$ (798)
Stockholders' equity:			
Preferred stock	\$ —	\$ —	\$ —
Common stock	59	59	—
Additional paid-in capital	3,735	3,735	—
Retained earnings	9,156	7,263	1,893
Accumulated other comprehensive loss	(463)	(397)	(66)
Treasury stock	(4,585)	(4,585)	—
Total stockholders' equity	\$ 7,902	\$ 6,075	\$ 1,827
Total liabilities and stockholders' equity	\$ 13,103	\$ 12,074	\$ 1,029

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

The following tables compare the Condensed Consolidated Statement of Operations for the three and six months ended September 30, 2018 to the proforma amounts had the previous standard of Topic 605 been in effect:

Condensed Consolidated Statement of Operations <i>(in millions)</i>	For the Three Months Ended September 30, 2018		
	As Reported under Topic 606	Proforma as if the previous accounting of Topic 605 was in effect	Effect of Change Higher/(Lower)
Revenue:			
Software licenses and maintenance	\$ 824	\$ 971	\$ (147)
Professional services	71	74	(3)
Total revenue	\$ 895	\$ 1,045	\$ (150)
Expenses:			
Costs of licensing and maintenance	\$ 74	\$ 74	\$ —
Cost of professional services	64	70	(6)
Amortization of capitalized software costs	49	49	—
Selling and marketing	252	246	6
General and administrative	99	99	—
Product development and enhancements	158	158	—
Depreciation and amortization of other intangible assets	28	28	—
Other expenses, net	4	4	—
Total expenses before interest and income taxes	\$ 728	\$ 728	\$ —
Income before interest and income taxes	\$ 167	\$ 317	\$ (150)
Interest expense, net	19	19	—
Income before income taxes	\$ 148	\$ 298	\$ (150)
Income tax expense	19	53	(34)
Net income	\$ 129	\$ 245	\$ (116)
Basic income per common share	\$ 0.31	\$ 0.59	\$ (0.28)
Basic weighted average shares used in computation	413	413	—
Diluted income per common share	\$ 0.31	\$ 0.58	\$ (0.27)
Diluted weighted average shares used in computation	416	416	—

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

For the Six Months Ended September 30, 2018

Condensed Consolidated Statement of Operations <i>(in millions)</i>	As Reported under Topic 606	Proforma as if the previous accounting of Topic 605 was in effect	Effect of Change Higher/(Lower)
Revenue:			
Software licenses and maintenance	\$ 1,694	\$ 1,949	\$ (255)
Professional services	139	148	(9)
Total revenue	\$ 1,833	\$ 2,097	\$ (264)
Expenses:			
Costs of licensing and maintenance	\$ 150	\$ 150	\$ —
Cost of professional services	134	143	(9)
Amortization of capitalized software costs	109	109	—
Selling and marketing	487	471	16
General and administrative	203	202	1
Product development and enhancements	320	320	—
Depreciation and amortization of other intangible assets	54	54	—
Other expenses, net	107	112	(5)
Total expenses before interest and income taxes	\$ 1,564	\$ 1,561	\$ 3
Income before interest and income taxes	\$ 269	\$ 536	\$ (267)
Interest expense, net	39	39	—
Income before income taxes	\$ 230	\$ 497	\$ (267)
Income tax benefit	(65)	(9)	(56)
Net income	\$ 295	\$ 506	\$ (211)
Basic income per common share	\$ 0.70	\$ 1.21	\$ (0.51)
Basic weighted average shares used in computation	414	414	—
Diluted income per common share	\$ 0.70	\$ 1.20	\$ (0.50)
Diluted weighted average shares used in computation	416	416	—

The following table provides a summary of the Company's revenue amounts under Topic 605 for the three and six months ended September 30, 2018 and 2017 in a manner consistent with its presentation prior to the adoption of Topic 606. Refer to Note 1, "Accounting Policies," for additional information on the current year reclassification.

<i>(in millions)</i>	For the Three Months Ended September 30,		For the Six Months Ended September 30,	
	2018	2017	2018	2017
Revenue:				
Subscription and maintenance	\$ 829	\$ 826	\$ 1,667	\$ 1,643
Professional services	74	75	148	150
Software fees and other	142	133	282	266
Total revenue	\$ 1,045	\$ 1,034	\$ 2,097	\$ 2,059

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

The adoption of Topic 606 had no impact on the Company's net cash provided by operating activities. The impacts of adoption resulted in offsetting shifts in cash flows throughout the components of net income and various changes in working capital balances. The following table compares the operating activities within the Condensed Consolidated Statement of Cash Flows for the six months ended September 30, 2018 to the proforma amounts had the previous standard of Topic 605 been in effect:

Condensed Consolidated Statement of Cash Flows <i>(in millions)</i>	For the Six Months Ended September 30, 2018		
	As Reported under Topic 606	Proforma as if the previous accounting of Topic 605 was in effect	Effect of Change Higher/(Lower)
Operating activities:			
Net income	\$ 295	\$ 506	\$ (211)
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	163	163	—
Deferred income taxes	(12)	(10)	(2)
Provision for bad debts	—	(1)	1
Share-based compensation expense	68	68	—
Other non-cash items	5	5	—
Foreign currency transaction (gains) losses	(4)	2	(6)
Changes in other operating assets and liabilities, net of effect of acquisitions:			
Decrease in trade accounts receivable	279	275	4
Increase in contract assets	(26)	—	(26)
Decrease in contract costs	18	—	18
Decrease in deferred revenue and advanced payments	(314)	(598)	284
Decrease in taxes payable, net	(258)	(204)	(54)
Increase in accounts payable, accrued expenses and other	33	35	(2)
Decrease in accrued salaries, wages and commissions	(34)	(34)	—
Changes in other operating assets and liabilities, net	38	44	(6)
Net cash provided by operating activities	\$ 251	\$ 251	\$ —

NOTE 4 – RESTRUCTURING

On May 2, 2018, the Company's Board of Directors (the "Board") 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. These actions were 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. Costs associated with the Fiscal 2019 Plan are presented in "Other expenses, net" in the Company's Condensed Consolidated Statement of Operations. 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 pre-tax charges 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).

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Accrued restructuring severance and exit costs and changes in the accruals during the six months ended September 30, 2018 were as follows:

<i>(in millions)</i>	Accrued Balance at March 31, 2018	Expense	Change in Estimate	Payments	Accretion and Other	Accrued Balance at September 30, 2018
Severance charges	\$ —	\$ 82	\$ (6)	\$ (44)	\$ —	\$ 32
Facility exit charges	7	37	—	(6)	—	38
Total accrued liabilities	\$ 7					\$ 70

The balance at September 30, 2018 includes facility exit accruals of approximately \$7 million for plans and actions prior to the Fiscal 2019 Plan.

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

NOTE 5 – GOODWILL, CAPITALIZED SOFTWARE AND OTHER INTANGIBLE ASSETS

The gross carrying amounts and accumulated amortization for capitalized software and other intangible assets at September 30, 2018 were as follows:

	At September 30, 2018				
	Gross Amortizable Assets	Less: Fully Amortized Assets	Remaining Amortizable Assets	Accumulated Amortization on Remaining Amortizable Assets	Net Assets
	<i>(in millions)</i>				
Purchased software products	\$ 6,579	\$ 5,247	\$ 1,332	\$ 658	\$ 674
Internally developed software products	1,467	1,458	9	6	3
Other intangible assets	1,215	834	381	77	304
Total capitalized software and other intangible assets	\$ 9,261	\$ 7,539	\$ 1,722	\$ 741	\$ 981

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				
	Gross Amortizable Assets	Less: Fully Amortized Assets	Remaining Amortizable Assets	Accumulated Amortization on Remaining Amortizable Assets	Net Assets
	<i>(in millions)</i>				
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

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Based on the capitalized software and other intangible assets recorded through September 30, 2018, the projected annual amortization expense for fiscal year 2019 and the next four fiscal years is expected to be as follows:

	Year Ended March 31,				
	2019	2020	2021	2022	2023
	<i>(in millions)</i>				
Purchased software products	\$ 189	\$ 166	\$ 122	\$ 113	\$ 86
Internally developed software products	10	1	—	—	—
Other intangible assets	40	36	36	35	31
Total	\$ 239	\$ 203	\$ 158	\$ 148	\$ 117

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.

Goodwill activity by segment for the six months ended September 30, 2018 was as follows:

<i>(in millions)</i>	Mainframe Solutions	Enterprise Solutions	Services	Total
Balance at March 31, 2018	\$ 4,178	\$ 2,545	\$ 81	\$ 6,804
Acquisitions	—	6	—	6
Foreign currency translation adjustment	—	(20)	—	(20)
Balance at September 30, 2018	\$ 4,178	\$ 2,531	\$ 81	\$ 6,790

NOTE 6 – 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. Principal currencies hedged include the euro, 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 Condensed Consolidated Statements of Operations.

At September 30, 2018, foreign currency contracts outstanding consisted of purchase and sale contracts with a total gross notional value of approximately \$720 million and durations of less than six months. The net fair value of these contracts at September 30, 2018 was a net asset of approximately \$10 million, of which approximately \$18 million was included in "Other current assets" and approximately \$8 million was included in "Accrued expenses and other current liabilities" in the Company's Condensed Consolidated Balance Sheet.

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 Condensed Consolidated Balance Sheet.

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

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

<i>(in millions)</i>	Amount of Net Loss (Gain) Recognized in the Condensed Consolidated Statements of Operations			
	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
Other expenses, net – foreign currency contracts	\$ —	\$ 4	\$ (10)	\$ 8

The Company is subject to collateral security arrangements with most of its major counterparties. The Company posted no collateral at September 30, 2018 or March 31, 2018. 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 7 – FAIR VALUE MEASUREMENTS

The following table presents the Company's assets and liabilities that were measured at fair value on a recurring basis at September 30, 2018 and March 31, 2018:

<i>(in millions)</i>	At September 30, 2018			At March 31, 2018		
	Fair Value Measurement Using Input Types		Estimated Fair Value	Fair Value Measurement Using Input Types		Estimated Fair Value
	Level 1	Level 2	Total	Level 1	Level 2	Total
Assets:						
Money market funds ⁽¹⁾	\$ 906	\$ —	\$ 906	\$ 1,281	\$ —	\$ 1,281
Foreign exchange derivatives ⁽²⁾	—	18	18	—	2	2
Total assets	\$ 906	\$ 18	\$ 924	\$ 1,281	\$ 2	\$ 1,283
Liabilities:						
Foreign exchange derivatives ⁽²⁾	\$ —	\$ 8	\$ 8	\$ —	\$ 1	\$ 1
Total liabilities	\$ —	\$ 8	\$ 8	\$ —	\$ 1	\$ 1

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

(2) Refer to Note 6, "Derivatives," for additional information.

At September 30, 2018 and March 31, 2018, 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 September 30, 2018 and March 31, 2018:

<i>(in millions)</i>	At September 30, 2018		At March 31, 2018	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Liabilities:				
Total debt ⁽¹⁾	\$ 2,526	\$ 2,550	\$ 2,783	\$ 2,844
Facility exit reserves ⁽²⁾	\$ 38	\$ 39	\$ 7	\$ 8

(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 reserves is determined using the Company's incremental borrowing rate at September 30, 2018 and March 31, 2018. At September 30, 2018 and March 31, 2018, the facility exit reserves included carrying values of approximately \$12 million and \$2 million, respectively, in "Accrued expenses and other current liabilities" and approximately \$26 million and \$5 million, respectively, in "Other noncurrent liabilities" in the Company's Condensed Consolidated Balance Sheets (Level 3).

CA, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 8 – COMMITMENTS AND CONTINGENCIES

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, the Company's 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.

Beginning on August 3, 2018, subsequent to the Company's announcement of the Merger Agreement with Broadcom (as defined in Note 1, "Accounting Policies," above), four (4) purported class action complaints were filed on behalf of the Company's stockholders (the "Broadcom Acquisition-Related Litigation"). These included:

- (i) *Kelli Harvey v. Michael Gregoire, Jens Alder, Raymond Bromark, Jean Hobby, Rohit Kapoor, Jeffrey Katz, Kay Koplovitz, Christopher Lofgren, Richard Sulpizio, Laura Unger, Arthur Weinbach, Collie Acquisition Corp., and Broadcom Inc.*, United States District Court for the Southern District of New York (1:18-cv-06996-JGK) (filed August 3, 2018);
- (ii) *Vladimir Guzinsky Rev. Trust v. Michael P. Gregoire, Jens Alder, Raymond J. Bromark, Jean M. Hobby, Rohit Kapoor, Jeffrey G. Katz, Kay Koplovitz, Christopher B. Lofgren, Richard Sulpizio, Laura S. Unger, and Arthur Weinbach*, U.S. District Court for the District of Delaware (1:18-cv-01221-LPS) (filed August 9, 2018);
- (iii) *Jacob Scheiner Retirement Account v. CA, Inc. Michael Gregoire, Jens Alder, Raymond Bromark, Jean Hobby, Rohit Kapoor, Jeffrey Katz, Kay Koplovitz, Christopher Lofgren, and Richard Sulpizio*, United States District Court for the District of Delaware (1:18-cv-01251-LPS) (filed August 15, 2018); and
- (iv) *Kenneth Gilley v. CA, Inc. Michael Gregoire, Jens Alder, Raymond Bromark, Jean Hobby, Rohit Kapoor, Jeffrey Katz, Kay Koplovitz, Christopher Lofgren, and Richard Sulpizio*, U.S. District Court for the District of Delaware (1:18-cv-01286-LPS) (filed August 22, 2018),

(collectively, the "Stockholder Actions").

The plaintiffs sought to enjoin the defendants from consummating the proposed transaction, or, if the transaction was consummated, the plaintiffs alternatively sought rescission and/or damages. The plaintiffs also sought costs and fees associated with the suits.

To avoid the risk of the Stockholder Actions delaying or adversely affecting the merger and to minimize the expense of defending the Broadcom Acquisition-Related Litigation, and without admitting any liability or wrongdoing, on September 5, 2018, the Company made certain disclosures that supplemented and revised those contained in the definitive proxy statement on Schedule 14A filed by the Company with the U.S. Securities and Exchange Commission on August 10, 2018. On September 24, 2018, each of the plaintiffs filed a Notice of Voluntary Dismissal, and each of the four (4) cases is now closed.

NOTE 9 – STOCKHOLDERS' EQUITY

Stock Repurchases: On November 13, 2015, the Board approved a stock repurchase program that authorized the Company to acquire up to \$750 million of its common stock. During the six months ended September 30, 2018, the Company repurchased approximately 2.3 million shares of its common stock for approximately \$80 million. At September 30, 2018, the Company remained authorized to purchase approximately \$407 million of its common stock under its current stock repurchase program.

Accumulated Other Comprehensive Loss: Foreign currency translation losses included in "Accumulated other comprehensive loss" in the Company's Condensed Consolidated Balance Sheets at September 30, 2018 and March 31, 2018 were approximately \$463 million and \$290 million, respectively.

CA, INC. AND SUBSIDIARIES
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Cash Dividends: The Board declared the following dividends during the six months ended September 30, 2018 and 2017:

Six Months Ended September 30, 2018:

(in millions, except per share amounts)

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
May 2, 2018	\$0.255	May 17, 2018	\$107	June 5, 2018
August 9, 2018	\$0.255	August 23, 2018	\$107	September 11, 2018

Six Months Ended September 30, 2017:

(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

NOTE 10 – INCOME PER COMMON SHARE

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, as adjusted for the potential dilutive effect of non-participating share-based awards.

The following table presents basic and diluted income per common share information for the three and six months ended September 30, 2018 and 2017:

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
	<i>(in millions, except per share amounts)</i>			
Basic income per common share:				
Net income	\$ 129	\$ 184	\$ 295	\$ 362
Less: Net income allocable to participating securities	(2)	(3)	(4)	(5)
Net income allocable to common shares	\$ 127	\$ 181	\$ 291	\$ 357
Weighted average common shares outstanding	413	415	414	415
Basic income per common share	\$ 0.31	\$ 0.44	\$ 0.70	\$ 0.86
Diluted income per common share:				
Net income	\$ 129	\$ 184	\$ 295	\$ 362
Less: Net income allocable to participating securities	(2)	(3)	(4)	(5)
Net income allocable to common shares	\$ 127	\$ 181	\$ 291	\$ 357
Weighted average shares outstanding and common share equivalents:				
Weighted average common shares outstanding	413	415	414	415
Weighted average effect of share-based payment awards	3	1	2	1
Denominator in calculation of diluted income per share	416	416	416	416
Diluted income per common share	\$ 0.31	\$ 0.44	\$ 0.70	\$ 0.86

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For the three months ended September 30, 2018, there were no shares of Company common stock underlying restricted stock awards (“RSAs”) and options to purchase common stock that were excluded from the calculation because their effect on income per share was anti-dilutive during the respective periods. For the three months ended September 30, 2017, approximately 2 million shares of Company common stock underlying RSAs 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 RSAs of approximately 5 million shares for the three months ended September 30, 2018 and 2017 were considered participating securities in the calculation of net income allocable to common stockholders.

For the six months ended September 30, 2018 and 2017, respectively, approximately 1 million shares and 2 million shares of Company common stock underlying RSAs 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 RSAs of approximately 5 million shares for the six months ended September 30, 2018 and 2017 were considered participating securities in the calculation of net income allocable to common stockholders.

NOTE 11 – ACCOUNTING FOR SHARE-BASED COMPENSATION

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

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
	<i>(in millions)</i>			
Costs of licensing and maintenance	\$ 2	\$ 2	\$ 4	\$ 4
Cost of professional services	—	—	1	1
Selling and marketing	11	10	21	20
General and administrative	13	11	25	23
Product development and enhancements	9	6	17	13
Share-based compensation expense before tax	\$ 35	\$ 29	\$ 68	\$ 61
Income tax benefit	(8)	(9)	(16)	(20)
Net share-based compensation expense	\$ 27	\$ 20	\$ 52	\$ 41

There were no capitalized share-based compensation costs for the three and six months ended September 30, 2018 and 2017.

The following table summarizes the unrecognized share-based compensation costs at September 30, 2018:

	Unrecognized Share- Based Compensation Costs	Weighted Average Period Expected to be Recognized
	<i>(in millions)</i>	<i>(in years)</i>
Stock option awards	\$ 6	2.1
Restricted stock awards (“RSAs”)	95	2.1
Restricted stock units (“RSUs”)	27	2.2
Performance share units	52	2.6
Total unrecognized share-based compensation costs	\$ 180	2.3

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For the six months ended September 30, 2018 and 2017, the Company issued stock options for approximately 0.9 million shares and 1.0 million shares, respectively. The weighted average fair values and assumptions used for the options granted were as follows:

	Six Months Ended September 30,	
	2018	2017
Weighted average fair value	\$ 5.70	\$ 4.72
Dividend yield	3.07%	3.17%
Expected volatility factor ⁽¹⁾	21%	21%
Risk-free interest rate ⁽²⁾	3.0%	2.1%
Expected life (in years) ⁽³⁾	6.0	6.0

- (1) Expected volatility is measured using historical daily price changes of the Company's common 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 table below summarizes all of the RSAs and RSUs granted, including grants made pursuant to the Company's long-term incentive plans, during the three and six months ended September 30, 2018 and 2017:

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
	<i>(shares in millions)</i>			
RSAs:				
Shares	—	— ⁽³⁾	2.9	2.9
Weighted average grant date fair value ⁽¹⁾	\$ —	\$ 32.98	\$ 35.28	\$ 31.70
RSUs:				
Shares	— ⁽³⁾	—	1.2	1.1
Weighted average grant date fair value ⁽²⁾	\$ 37.02	\$ —	\$ 34.06	\$ 30.35

- (1) The fair value is based on the quoted market value of the Company's common stock on the grant date.
- (2) The fair value is based on the quoted market value of the Company's common stock on the grant date reduced by the present value of dividends expected to be paid on the Company's common stock prior to vesting of the RSUs, which is calculated using a risk-free interest rate.
- (3) Less than 0.1 million.

Employee Stock Purchase Plan: For the six-month offer period ended June 30, 2018, the Company issued approximately 0.1 million shares under the Employee Stock Purchase Plan ("ESPP") at \$33.87 per share. As of September 30, 2018, approximately 28.7 million shares were available for future issuances under the ESPP.

NOTE 12 – INCOME TAXES

Income tax expense for the three months ended September 30, 2018 was approximately \$19 million and income tax benefit for the six months ended September 30, 2018 was approximately \$65 million compared with income tax expense for the three and six months ended September 30, 2017 of approximately \$74 million and \$134 million, respectively. For the three and six months ended September 30, 2018, the Company recorded a net discrete tax benefit of approximately \$16 million and \$114 million, respectively, resulting primarily from refinements to the provisional estimates of the impact of changes in tax law in the United States resulting from the enactment of the Tax Act. For the six months ended September 30, 2017, the Company recorded a net discrete tax benefit of approximately \$8 million resulting primarily from reductions in uncertain tax positions related to effectively settled tax audits.

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The cumulative expense recorded for the impacts of the Tax Act are provisional amounts of approximately \$176 million in total, including expense of approximately \$193 million related to the taxation of unremitted earnings of the Company's foreign subsidiaries, which is payable over eight years, partially offset by a benefit of approximately \$113 million related to a dividends received deduction for certain foreign tax credits relating to the fiscal 2018 year calculation of taxation of unremitted earnings, and expense of approximately \$96 million related to the remeasurement of deferred tax assets and liabilities for the change in income tax rates. 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. The \$113 million tax benefit for the dividends received deduction was based on the Company's assessment of the treatment under the provisions of the Tax Act. Congress or the Department of Treasury may provide legislative or regulatory updates which would change the Company's assessment. If legislative or regulatory updates are issued related to this item, the timing of which is uncertain, the Company may be required to recognize additional tax expense up to the full amount of the \$113 million in the period such updates are issued.

Excluding the impact of discrete items for the six months ended September 30, 2018 and 2017, the Company's estimated annual effective tax rate was 20.8% and 28.6%, respectively. The reduction in the Company's estimated annual effective tax rate is primarily resulting from the Tax Act which provided for a lower statutory tax rate in the United States. Changes in tax laws, the outcome of tax audits and any other changes in potential tax liabilities may result in additional tax expense or benefit in fiscal year 2019, which are not considered in the Company's estimated annual effective tax rate. While the Company does not currently view any such items as individually material to the results of the Company's consolidated financial position or results of operations, the impact of certain items may yield additional tax expense or benefit in the remaining quarters of fiscal year 2019.

NOTE 13 – SUPPLEMENTAL STATEMENT OF CASH FLOWS INFORMATION

For the six months ended September 30, 2018 and 2017, interest payments were approximately \$61 million and \$60 million, respectively, and income taxes paid, net were approximately \$130 million and \$156 million, respectively.

Non-cash financing activities for the six months ended September 30, 2018 and 2017 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 \$41 million of income taxes withheld) and \$46 million (net of approximately \$35 million of income taxes withheld), respectively; discretionary stock contributions to the CA, Inc. Savings Harvest Plan of approximately \$24 million and \$23 million, respectively; and the Company's ESPP of approximately \$2 million and \$2 million, respectively.

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. The activity under this notional pooling arrangement for the six months ended September 30, 2018 and 2017 was as follows:

	Six Months Ended September 30,	
	2018	2017
	<i>(in millions)</i>	
Total borrowings outstanding at beginning of period ⁽¹⁾	\$ 137	\$ 137
Borrowings	1,076	1,173
Repayments	(1,053)	(1,204)
Foreign exchange effect	(24)	31
Total borrowings outstanding at end of period ⁽¹⁾	\$ 136	\$ 137

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

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NOTE 14 – SEGMENT 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 of the Company prior to the adoption of Topic 606. Accordingly, differences in segment revenue and consolidated revenue arise primarily from (a) term and perpetual software licenses that are recognized ratably under the Company's segment policies and in its Condensed Consolidated Statement of Operations for periods prior to the adoption of Topic 606 that, after adoption of Topic 606, are recognized at a point-in-time; and (b) differences in the allocations of contract value among products and services in a contract arising from the use of a relative standalone selling price allocation method in the Company's Condensed Consolidated Statement of Operations for periods after adoption of Topic 606 as compared to the aforementioned approach to assigning contract value to the Company's segments.

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, certain foreign exchange derivative hedging gains and losses, 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 summary of segment revenue and reconciliation to total consolidated revenue for the three and six months ended September 30, 2018 and 2017 was as follows:

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
	<i>(in millions)</i>			
Revenue by segment:				
Mainframe Solutions	\$ 548	\$ 539	\$ 1,101	\$ 1,075
Enterprise Solutions	423	420	848	834
Services	74	75	148	150
Total segment revenue	\$ 1,045	\$ 1,034	\$ 2,097	\$ 2,059
Impact of segment policies that differ from U.S. GAAP ⁽¹⁾	(150)	—	(264)	—
Total consolidated revenue	\$ 895	\$ 1,034	\$ 1,833	\$ 2,059

(1) The manner in which the Company measures and recognizes revenues for segment reporting was not revised upon adoption of Topic 606. For segment reporting purposes, the Company follows its previous Topic 605 policies, which recognizes software license revenue ratably, except for sales of perpetual licenses on a stand-alone basis, which are recognized at a point-in-time.

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The Company's summary of segment profit and reconciliation to income before income taxes for the three and six months ended September 30, 2018 and 2017 was as follows:

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
<i>(in millions)</i>				
Segment profit:				
Mainframe Solutions	\$ 354	\$ 351	\$ 724	\$ 700
Enterprise Solutions	54	40	114	73
Services	4	1	4	2
Total segment profit	\$ 412	\$ 392	\$ 842	\$ 775
Impact of segment policies that differ from U.S. GAAP ⁽¹⁾	(150)	—	(267)	—
Less unallocated amounts:				
Purchased software amortization	47	58	102	116
Other intangibles amortization	11	10	21	20
Internally developed software products amortization	2	9	7	21
Share-based compensation expense	35	29	68	61
Other expenses, net ⁽²⁾	—	4	108	12
Interest expense, net	19	24	39	49
Income before income taxes	\$ 148	\$ 258	\$ 230	\$ 496

- (1) The manner in which the Company measures and recognizes revenues and expenses, including commissions, for segment reporting was not revised upon adoption of Topic 606. For segment reporting purposes, commissions are expensed in the period earned by the employee.
- (2) Other expenses, net for the three and six months ended September 30, 2018 consisted of costs associated with the Fiscal 2019 Plan of \$(1) million and \$113 million, respectively, certain foreign exchange derivative hedging gains and losses, and other miscellaneous costs. Other expenses, net for the three and six months ended September 30, 2017 consisted of costs associated with certain foreign exchange derivative hedging gains and losses, and other miscellaneous costs.

Depreciation by segment for the three and six months ended September 30, 2018 and 2017 was as follows:

	Three Months Ended September 30,		Six Months Ended September 30,	
	2018	2017	2018	2017
<i>(in millions)</i>				
Depreciation:				
Mainframe Solutions	\$ 10	\$ 10	\$ 19	\$ 19
Enterprise Solutions	7	7	14	14
Services	—	—	—	—
Total depreciation	\$ 17	\$ 17	\$ 33	\$ 33

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NOTE 15 – SUBSEQUENT EVENTS

On July 11, 2018, the Company, Broadcom, and Merger Sub entered into the Merger Agreement, pursuant to which Merger Sub was merged with and into the Company, with the Company surviving the Merger and becoming a wholly owned subsidiary of Broadcom. The Merger closed on November 5, 2018. Under the Merger Agreement, at the effective time of the Merger, each issued and outstanding share of Company common stock (other than shares that were (i) owned or held in treasury by the Company or owned by Broadcom or Merger Sub and (ii) owned by any wholly owned subsidiary of Broadcom or of the Company) was cancelled and automatically converted into the right to receive \$44.50 in cash, without interest. On November 5, 2018, in connection with the completion of the Merger and as required by the terms of the Merger Agreement, the Company prepaid (or caused to be prepaid) in full all obligations outstanding and terminated all commitments under (i) the Amended and Restated Credit Agreement, dated as of June 27, 2017 (the “Revolving Credit Agreement”), among the Company, the lenders and other parties from time to time party thereto and Citibank, N.A., as administrative agent, and (ii) the Amended and Restated Term Loan Agreement, dated as of April 20, 2018 (the “Term Loan Agreement”), among the Company, the lenders from time to time party thereto and Bank of America, N.A., as administrative agent, in each case as amended, restated, supplemented or otherwise modified.

Item 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Cautionary Statement Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q ("Form 10-Q") 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-Q, 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 in this Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A"), but also statements relating to the future that appear in other parts of this Form 10-Q. This forward-looking information reflects our current views with respect to future events and is subject to certain risks, uncertainties and assumptions.

A number of important factors could cause actual results or events to differ materially from those indicated by such forward-looking statements, including: the effect of the acquisition by Broadcom Inc. ("Broadcom") of the Company (the "Merger") on our business relationships, operating results and business; the ability to achieve success in our business strategy by, among other things, ensuring that any new offerings address the needs of a rapidly changing market while not adversely affecting the demand for our traditional products or our profitability to an extent greater than anticipated, enabling our sales force to execute renewals within our existing customer base at acceptable renewal rates, enabling our sales force to expand relationships with our global customer base and address opportunities with new customers (for example, in geographic regions where we have underserved, or with chief information security officers and chief development officers, who have not been traditional customers) at levels sufficient to offset any decline in revenue in our Mainframe Solutions segment and in certain mature product lines in our Enterprise Solutions segment, effectively managing the strategic shift in our business model to increase sales through digital sales forces and indirectly through our partners, as well as provide additional Software-as-a-Service ("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 managing our pricing and other go-to-market strategies, as well as improving our brand, technology and innovation awareness in the marketplace; the failure to innovate or adapt to technological changes or develop and introduce new software products and services in a timely and market-accepted manner; competition in product and service offerings and pricing; the ability of our products to remain compatible with ever-changing operating environments, platforms or third party products; global economic factors or political events beyond our control and other business and legal risks associated with global operations; the failure to sell and renew license agreement on a satisfactory basis; the failure to expand partner programs and failure by our partners to leverage their sales channels to drive revenue growth; the ability to retain and attract qualified professionals; changes in generally accepted accounting principles ("GAAP"), which includes adoption of revenue recognition requirements under Accounting Standards Codification Topic 606; the ability to successfully integrate acquired companies and products into our existing business; hacking or other cybersecurity attacks on our data center, network and software products, or the IT environments of our business partners and customers; the ability to adequately manage, evolve and protect our information systems, infrastructure and processes; general economic conditions and credit constraints, or unfavorable economic conditions in a particular region, business or industry sector; risks associated with sales to government customers; fluctuations in foreign exchange rates; discovery of errors or omissions in our software products; the failure to protect our intellectual property rights and source code; access to software licensed from third parties; risks associated with the use of software from open source code sources; third-party claims of intellectual property infringement and/or royalty payments; fluctuations in the number, terms and duration of our license agreements, as well as the timing of orders from customers and partners; potential tax liabilities; changes in market conditions or our credit ratings; events or circumstances that would require us to record an impairment charge relating to our goodwill or capitalized software and other intangible assets balances; the failure to effectively execute on our announced restructuring plans; successful and secure outsourcing of various functions to third parties; the continued payment of dividends and repurchasing of shares of our common stock; and other factors described more fully in this Form 10-Q and our other filings with the Securities and Exchange Commission, including those described on pages 11-20 of our fiscal year 2018 Annual Report on Form 10-K, filed on May 9, 2018. 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-Q as believed, planned, anticipated, expected, estimated, targeted or similarly identified. We do not intend to update these forward-looking statements, except as otherwise required by law. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. This MD&A is provided as a supplement to, and should be read in conjunction with, our financial statements and the accompanying notes to the financial statements. References in this Form 10-Q to fiscal 2019 and fiscal 2018 are to our fiscal years ending on March 31, 2019 and 2018, respectively.

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.

Our business is comprised of three distinct but highly complementary operating segments: Enterprise Solutions, Mainframe Solutions and Services. These also represent the operating segments used by our Chief Executive Officer for evaluating our performance and allocating resources.

- 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 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.

On July 11, 2018, the Company, Broadcom Inc. (“Broadcom”), and Collie Acquisition Corp., a Delaware corporation and a wholly owned subsidiary of Broadcom (“Merger Sub”) entered into an Agreement and Plan of Merger (the “Merger Agreement”), pursuant to which Merger Sub was merged with and into the Company, with the Company surviving the Merger and becoming a wholly owned subsidiary of Broadcom. The Merger closed on November 5, 2018. Under the Merger Agreement, at the effective time of the Merger, each issued and outstanding share of Company common stock (other than shares that were (i) owned or held in treasury by the Company or owned by Broadcom or Merger Sub and (ii) owned by any wholly owned subsidiary of Broadcom or of the Company) was cancelled and automatically converted into the right to receive \$44.50 in cash, without interest.

EXECUTIVE SUMMARY

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 replaces most existing revenue recognition guidance in GAAP. Topic 606 was adopted by us effective April 1, 2018 using the modified retrospective method. Reporting periods prior to the adoption of Topic 606 were presented in accordance with ASC Topic 605 (“Topic 605”). As a result of adopting Topic 606, we now recognize revenue for the license component of all our on-premise software arrangements at the point-in-time control of the software license is transferred to the customer, rather than ratably over the term of the contract.

Refer to Note 2, “Revenue from Contracts with Customers,” and Note 3, “Impact of Adopting Topic 606,” in the Notes to the Condensed Consolidated Financial Statements for a discussion of the changes in our policies for revenue recognition and commissions, and the required disclosures related to the impact of adopting Topic 606. Refer to our Annual Report on Form 10-K for policies in accordance with Topic 605.

A summary of key results for the second quarter of fiscal 2019 compared with the second quarter of fiscal 2018 is as follows:

Revenue

- Total revenue decreased due to the adoption of Topic 606 in the first quarter of fiscal 2019. On a Topic 605 basis, total revenue increased \$11 million primarily due to an increase in Mainframe Solutions revenue and SaaS revenue within our Enterprise Solutions segment, partially offset by an unfavorable foreign exchange effect of \$10 million.

Expenses

- Under both Topic 606 and Topic 605, operating expenses decreased primarily due to a decrease in amortization of capitalized software costs.

Income taxes

- Under both Topic 606 and Topic 605, income tax expense includes a net discrete tax benefit of \$16 million resulting primarily from refinements to the provisional estimates of the impact of changes in tax law in the United States resulting from the Tax Cuts and Jobs Act enacted on December 22, 2017 (the “Tax Act”).

Diluted income per common share

- Under Topic 606, diluted income per common share decreased to \$0.31 from \$0.44. Under Topic 605, diluted income per common share would have been \$0.58 for the second quarter of fiscal 2019.

Segment results

- Mainframe Solutions revenue increased primarily due to an increase in revenue from new sales that offset the decline in revenue contribution from renewals, partially offset by an unfavorable foreign exchange effect of \$5 million. Mainframe Solutions operating margin was consistent primarily due to an increase in Mainframe Solutions revenue, partially offset by pre-merger costs related to the Merger with Broadcom.
- Enterprise Solutions revenue increased primarily due to an increase in SaaS revenue, partially offset by a decrease in revenue from our Enterprise Solutions products recognized on an upfront basis and an unfavorable foreign exchange effect of \$4 million. Enterprise Solutions operating margin increased primarily due to lower acquisition-related costs from prior period acquisitions, partially offset by pre-merger costs related to the Merger with Broadcom, and an increase in Enterprise Solutions revenue.
- Services revenue decreased primarily due to an unfavorable foreign exchange effect. Operating margin for Services increased primarily due to lower costs resulting from severance actions associated with the Fiscal 2019 Plan.

Net cash from operating activities

- Net cash used in operating activities for the second quarter of fiscal 2019 was \$11 million, representing a decrease of \$48 million compared with net cash provided by operating activities of \$37 million for the second quarter of fiscal 2018. The decrease in net cash from operating activities was primarily due to a decrease in cash collections from billings of \$39 million mainly attributable to lower single installment collections and an increase in other disbursements, net of \$21 million mainly from payments associated with the Fiscal 2019 Plan, partially offset by a decrease in income tax payments, net of \$9 million compared with the year-ago period.

PERFORMANCE INDICATORS

Management uses several quantitative performance indicators to assess our financial results and condition. The following is a summary of the principal quantitative performance indicators that management uses to review performance:

	Second Quarter of Fiscal			Second Quarter of Fiscal 2019 vs. 2018			
	2019	2019	2018	Topic 606 vs. Topic 605		Topic 605 vs. Topic 605	
	Topic 606	Topic 605	Topic 605	Change	Percentage Change	Change	Percentage Change
	<i>(dollars in millions)</i>						
Total revenue	\$ 895	\$ 1,045	\$ 1,034	\$ (139)	(13)%	\$ 11	1 %
Net income	\$ 129	\$ 245	\$ 184	\$ (55)	(30)%	\$ 61	33 %
Net cash (used in) provided by operating activities	\$ (11)	\$ (11)	\$ 37	\$ (48)	(130)%	\$ (48)	(130)%

	First Half of Fiscal			First Half of Fiscal 2019 vs. 2018			
	2019	2019	2018	Topic 606 vs. Topic 605		Topic 605 vs. Topic 605	
	Topic 606	Topic 605	Topic 605	Change	Percentage Change	Change	Percentage Change
	<i>(dollars in millions)</i>						
Total revenue	\$ 1,833	\$ 2,097	\$ 2,059	\$ (226)	(11)%	\$ 38	2 %
Net income	\$ 295	\$ 506	\$ 362	\$ (67)	(19)%	\$ 144	40 %
Net cash provided by operating activities	\$ 251	\$ 251	\$ 335	\$ (84)	(25)%	\$ (84)	(25)%

	September 30, 2018		March 31, 2018		Change From Fiscal Year End		September 30, 2017		Change From Prior Year Quarter	
	<i>(in millions)</i>									
Cash and cash equivalents	\$	2,931	\$	3,405	\$	(474)	\$	2,822	\$	109
Total debt	\$	2,526	\$	2,783	\$	(257)	\$	2,785	\$	(259)

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.

RESULTS OF OPERATIONS

In May 2014, the FASB issued Topic 606 that replaces most existing revenue recognition guidance in GAAP. Topic 606 was adopted by us effective April 1, 2018 using the modified retrospective method. Reporting periods prior to the adoption of Topic 606 were presented in accordance with Topic 605. As a result of adopting Topic 606, we now recognize revenue for the license component of all our on-premise software arrangements at the point-in-time control of the software license is transferred to the customer, rather than ratably over the term of the contract.

Refer to Note 2, “Revenue from Contracts with Customers,” and Note 3, “Impact of Adopting Topic 606,” in the Notes to the Condensed Consolidated Financial Statements for a discussion of the changes in our policies for revenue recognition and commissions, and the required disclosures related to the impact of adopting Topic 606. Refer to our Annual Report on Form 10-K for policies in accordance with Topic 605.

The following tables present revenue and expense line items reported in our Condensed Consolidated Statements of Operations for the second quarter and first half of fiscal 2019, both as reported under Topic 606 and Topic 605, and for the second quarter and first half of fiscal 2018 as reported under Topic 605, 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.

	Second Quarter of Fiscal			Second Quarter of Fiscal 2019 vs. 2018			
	2019	2019	2018	Topic 606 vs. Topic 605		Topic 605 vs. Topic 605	
	Topic 606	Topic 605	Topic 605	Dollar Change	Percentage Change	Dollar Change	Percentage Change
<i>(dollars in millions)</i>							
Revenue:							
Software licenses and maintenance	\$ 824	\$ 971	\$ 959	\$ (135)	(14)%	\$ 12	1 %
Professional services	71	74	75	(4)	(5)	(1)	(1)
Total revenue	\$ 895	\$ 1,045	\$ 1,034	\$ (139)	(13)%	\$ 11	1 %
Expenses:							
Costs of licensing and maintenance	\$ 74	\$ 74	\$ 73	\$ 1	1 %	\$ 1	1 %
Cost of professional services	64	70	74	(10)	(14)	(4)	(5)
Amortization of capitalized software costs	49	49	67	(18)	(27)	(18)	(27)
Selling and marketing	252	246	244	8	3	2	1
General and administrative	99	99	97	2	2	2	2
Product development and enhancements	158	158	161	(3)	(2)	(3)	(2)
Depreciation and amortization of other intangible assets	28	28	27	1	4	1	4
Other expenses, net	4	4	9	(5)	(56)	(5)	(56)
Total expenses before interest and income taxes	\$ 728	\$ 728	\$ 752	\$ (24)	(3)%	\$ (24)	(3)%
Income before interest and income taxes	\$ 167	\$ 317	\$ 282	\$ (115)	(41)%	\$ 35	12 %
Interest expense, net	19	19	24	(5)	(21)	(5)	(21)
Income before income taxes	\$ 148	\$ 298	\$ 258	\$ (110)	(43)%	\$ 40	16 %
Income tax expense	19	53	74	(55)	(74)	(21)	(28)
Net income	\$ 129	\$ 245	\$ 184	\$ (55)	(30)%	\$ 61	33 %

	First Half of Fiscal			First Half of Fiscal 2019 vs. 2018			
	2019	2019	2018	Topic 606 vs. Topic 605		Topic 605 vs. Topic 605	
	Topic 606	Topic 605	Topic 605	Dollar Change	Percentage Change	Dollar Change	Percentage Change
<i>(dollars in millions)</i>							
Revenue:							
Software licenses and maintenance	\$ 1,694	\$ 1,949	\$ 1,909	\$ (215)	(11)%	\$ 40	2 %
Professional services	139	148	150	(11)	(7)	(2)	(1)
Total revenue	\$ 1,833	\$ 2,097	\$ 2,059	\$ (226)	(11)%	\$ 38	2 %
Expenses:							
Costs of licensing and maintenance	\$ 150	\$ 150	\$ 144	\$ 6	4 %	\$ 6	4 %
Cost of professional services	134	143	147	(13)	(9)	(4)	(3)
Amortization of capitalized software costs	109	109	137	(28)	(20)	(28)	(20)
Selling and marketing	487	471	490	(3)	(1)	(19)	(4)
General and administrative	203	202	204	(1)	—	(2)	(1)
Product development and enhancements	320	320	319	1	—	1	—
Depreciation and amortization of other intangible assets	54	54	53	1	2	1	2
Other expenses, net	107	112	20	87	435	92	460
Total expenses before interest and income taxes	\$ 1,564	\$ 1,561	\$ 1,514	\$ 50	3 %	\$ 47	3 %
Income before interest and income taxes	\$ 269	\$ 536	\$ 545	\$ (276)	(51)%	\$ (9)	(2)%
Interest expense, net	39	39	49	(10)	(20)	(10)	(20)
Income before income taxes	\$ 230	\$ 497	\$ 496	\$ (266)	(54)%	\$ 1	— %
Income tax (benefit) expense	(65)	(9)	134	(199)	(149)	(143)	(107)
Net income	\$ 295	\$ 506	\$ 362	\$ (67)	(19)%	\$ 144	40 %

The following table sets forth, for the periods and revenue recognition accounting standards indicated, the percentage of total revenue presented by the items in the accompanying Condensed Consolidated Statements of Operations:

	Second Quarter of Fiscal			First Half of Fiscal		
	2019	2019	2018	2019	2019	2018
	Topic 606	Topic 605	Topic 605	Topic 606	Topic 605	Topic 605
Revenue:						
Software licenses and maintenance	92%	93%	93%	92 %	93 %	93%
Professional services	8	7	7	8	7	7
Total revenue	100%	100%	100%	100 %	100 %	100%
Expenses:						
Costs of licensing and maintenance	8%	7%	7%	8 %	7 %	7%
Cost of professional services	7	7	7	7	7	7
Amortization of capitalized software costs	5	5	6	6	5	7
Selling and marketing	28	24	24	27	22	24
General and administrative	11	9	9	11	10	10
Product development and enhancements	18	15	16	17	15	15
Depreciation and amortization of other intangible assets	3	3	3	3	3	3
Other expenses, net	—	—	1	6	5	1
Total expenses before interest and income taxes	81%	70%	73%	85 %	74 %	74%
Income before interest and income taxes	19%	30%	27%	15 %	26 %	26%
Interest expense, net	2	2	2	2	2	2
Income before income taxes	17%	29%	25%	13 %	24 %	24%
Income tax expense (benefit)	2	5	7	(4)	—	7
Net income	14%	23%	18%	16 %	24 %	18%

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

Revenue

Total Revenue

Total revenue is the amount of revenue recognized during the reporting period from the sale of products and services. Our products and services can be broadly categorized as perpetual licenses to use software, term-based licenses for SaaS and on-premise use of software, maintenance for perpetual and term-based on-premise licenses, and professional services. Our software licenses and maintenance are for mainframe, enterprise, and SaaS computing environments. Refer to Note 2, "Revenue from Contracts with Customers," in the Notes to the Condensed Consolidated Financial Statements for additional information.

Total revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$150 million, total revenue for the second quarter of fiscal 2019 increased \$11 million compared with the second quarter of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue and SaaS revenue within our Enterprise Solutions segment, partially offset by an unfavorable foreign exchange effect of \$10 million.

Total revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$264 million, total revenue for the first half of fiscal 2019 increased \$38 million compared with the first half of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue and SaaS revenue within our Enterprise Solutions segment, as well as a favorable foreign exchange effect of \$10 million.

With the adoption of Topic 606, our revenue results will be highly dependent on total bookings. Total bookings, or sales, includes the incremental value of all product and professional services 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. For the second quarter and first half of fiscal 2019, total bookings were \$861 million and \$1,639 million, respectively. Total revenue for the second quarter and first half of fiscal 2018 was based on Topic 605, which generally consisted of a majority of our revenue being recognized ratably over the term of our contracts and, as such, total bookings had a lower effect on our quarterly revenue performance.

License Agreements over \$10 million: During the second quarter of fiscal 2019, we executed a total of 12 license agreements with incremental contract values in excess of \$10 million each, for an aggregate contract value of \$291 million. During the second quarter of fiscal 2018, we executed a total of 9 license agreements with incremental contract values in excess of \$10 million each, for an aggregate contract value of \$175 million.

During the first half of fiscal 2019, we executed a total of 22 license agreements with incremental contract values in excess of \$10 million each, for an aggregate contract value of \$583 million. During the first half of fiscal 2018, we executed a total of 18 license agreements with incremental contract values in excess of \$10 million each, for an aggregate contract value of \$351 million.

The period over period increase for both the second quarter and first half of fiscal 2019 was primarily due to some license agreements renewing earlier than their original expiration dates. However, in accordance with Topic 606, the license and maintenance revenue on renewed contracts is deferred until the original contract expiration dates, which cause a difference in the amount of bookings and revenue recognized for the period.

Software Licenses and Maintenance

Software licenses and maintenance revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$147 million, software licenses and maintenance revenue for the second quarter of fiscal 2019 increased \$12 million compared with the second quarter of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue and SaaS revenue within our Enterprise Solutions segment, partially offset by an unfavorable foreign exchange effect of \$9 million.

Software licenses and maintenance revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$255 million, software licenses and maintenance revenue for the first half of fiscal 2019 increased \$40 million compared with the first half of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue and SaaS revenue within our Enterprise Solutions segment, as well as a favorable foreign exchange effect of \$9 million.

Professional Services

Professional services revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$3 million, professional services revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 primarily due to an unfavorable foreign exchange effect.

Professional services revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$9 million, professional services revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 primarily due to a decline in professional services engagements. The decline in 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.

Total Revenue by Geography

The following tables present the amount of revenue earned from sales to unaffiliated customers in the United States and international regions and corresponding percentage changes for the second quarter and first half of fiscal 2019 compared with the second quarter and first half of fiscal 2018.

Second Quarter Comparison Fiscal 2019 Versus Fiscal 2018

	Second Quarter Fiscal 2019 Topic 606	Percentage of Total Revenue	Second Quarter Fiscal 2018 Topic 605	Percentage of Total Revenue	Dollar Change	Percentage Change
<i>(dollars in millions)</i>						
United States	\$ 592	66%	\$ 658	64%	\$ (66)	(10)%
International	303	34	376	36	(73)	(19)
Total revenue	\$ 895	100%	\$ 1,034	100%	\$ (139)	(13)%

	Second Quarter Fiscal 2019 Topic 605	Percentage of Total Revenue	Second Quarter Fiscal 2018 Topic 605	Percentage of Total Revenue	Dollar Change	Percentage Change
<i>(dollars in millions)</i>						
United States	\$ 668	64%	\$ 658	64%	\$ 10	2%
International	377	36	376	36	1	—
Total revenue	\$ 1,045	100%	\$ 1,034	100%	\$ 11	1%

First Half Comparison Fiscal 2019 Versus Fiscal 2018

	First Half Fiscal 2019 Topic 606	Percentage of Total Revenue	First Half Fiscal 2018 Topic 605	Percentage of Total Revenue	Dollar Change	Percentage Change
<i>(dollars in millions)</i>						
United States	\$ 1,164	64%	\$ 1,315	64%	\$ (151)	(11)%
International	669	36	744	36	(75)	(10)
Total revenue	\$ 1,833	100%	\$ 2,059	100%	\$ (226)	(11)%

	First Half Fiscal 2019 Topic 605	Percentage of Total Revenue	First Half Fiscal 2018 Topic 605	Percentage of Total Revenue	Dollar Change	Percentage Change
<i>(dollars in millions)</i>						
United States	\$ 1,331	63%	\$ 1,315	64%	\$ 16	1%
International	766	37	744	36	22	3
Total revenue	\$ 2,097	100%	\$ 2,059	100%	\$ 38	2%

Revenue in the United States for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$76 million, revenue in the United States increased primarily due to an increase in subscription and maintenance and SaaS revenue. International revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$74 million, international revenue increased slightly with the second quarter of fiscal 2018 primarily due to an increase in subscription and maintenance and SaaS revenue, partially offset by an unfavorable foreign exchange effect of \$10 million.

Revenue in the United States for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$167 million, revenue in the United States increased primarily due to an increase in subscription and maintenance and SaaS revenue. International revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$97 million, international revenue increased primarily due to an increase in subscription and maintenance and SaaS revenue, as well as a favorable foreign exchange effect of \$10 million.

Expenses

Operating Expenses

Operating expenses for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 primarily due to a decrease in amortization of capitalized software costs as discussed below.

Operating expenses for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to an increase in other expenses, net attributable to the Fiscal 2019 Plan. This increase was partially offset by decreases in amortization of capitalized software costs and selling and marketing expenses as discussed below.

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 the second quarter and first half of fiscal 2019 increased compared with the second quarter and first half of fiscal 2018 primarily due to an increase in costs associated with our SaaS products.

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 the second quarter and first half of fiscal 2019 decreased compared with the second quarter and first half of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606, cost of professional services for the second quarter and first half of fiscal 2019 decreased compared with the second quarter and first half of fiscal 2018 primarily due to a decrease in the number of professional services engagements.

Operating margin for professional services for the second quarter and first half of fiscal 2019 increased compared with the second quarter and first half of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606, operating margin for professional services for the second quarter and first half of fiscal 2019 increased compared with the second quarter and first half of fiscal 2018 primarily due to lower costs resulting from severance actions associated with the Fiscal 2019 Plan. 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.

Amortization of capitalized software costs for the second quarter and first half of fiscal 2019 decreased compared with the second quarter and first half of fiscal 2018 primarily due to a decrease in amortization of our internally developed software products and purchased 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.

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 the second quarter of fiscal 2019 increased compared with the second quarter of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$6 million, selling and marketing expenses for the second quarter of fiscal 2019 was generally consistent compared with the second quarter of fiscal 2018 primarily due to an increase in costs associated with the cancellation of our annual trade show, CA World, partially offset by a decrease in personnel-related costs resulting from lower headcount.

Selling and marketing expenses for the first half of fiscal 2019 was generally consistent compared with the first half of fiscal 2018 primarily due to the adoption of Topic 606 in the first quarter of fiscal 2019. Excluding the impact from the adoption of Topic 606 of \$16 million, selling and marketing expenses for the first half of fiscal 2019 decreased \$19 million compared with the first half of fiscal 2018 primarily due to a decrease in personnel-related costs resulting from lower headcount, partially offset by an increase in costs associated with the cancellation of our annual trade show, CA World, during the second quarter of fiscal 2019.

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 the second quarter of fiscal 2019 was generally consistent compared with the second quarter of fiscal 2018 primarily due to pre-merger costs related to the Merger with Broadcom, partially offset by a decrease in personnel-related costs resulting from lower headcount.

General and administrative expenses for the first half of fiscal 2019 was generally consistent compared with the first half of fiscal 2018 primarily due to a decrease in personnel-related costs resulting from lower headcount, partially offset by pre-merger costs related to the Merger with Broadcom.

Product Development and Enhancements

Product development and enhancements expense for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 primarily due to a decrease in personnel-related costs resulting from a shift in resources to lower cost locations.

Product development and enhancements expense for the first half of fiscal 2019 was generally consistent compared with the first half of fiscal 2018.

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 the second quarter and first half of fiscal 2019 was generally consistent compared with the second quarter and first half of fiscal 2018.

Other Expenses, Net

The summary of other expenses, net was as follows:

	Second Quarter Fiscal 2019 Topic 606	Second Quarter Fiscal 2019 Topic 605	Second Quarter Fiscal 2018 Topic 605
	<i>(dollars in millions)</i>		
Fiscal 2019 Plan	\$ (1)	\$ (1)	\$ —
Legal settlements	1	1	—
Losses from foreign exchange derivative contracts	—	—	4
Losses from foreign exchange rate fluctuations	2	2	5
Other miscellaneous items	2	2	—
Total	\$ 4	\$ 4	\$ 9
	<i>(dollars in millions)</i>		
	First Half Fiscal 2019 Topic 606	First Half Fiscal 2019 Topic 605	First Half Fiscal 2018 Topic 605
Fiscal 2019 Plan	\$ 113	\$ 113	\$ —
Legal settlements	1	1	2
(Gains) losses from foreign exchange derivative contracts	(10)	(10)	8
Losses from foreign exchange rate fluctuations	1	6	10
Other miscellaneous items	2	2	—
Total	\$ 107	\$ 112	\$ 20

On May 2, 2018, our Board of Directors approved the 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. Refer to Note 4, "Restructuring," in the Notes to the Condensed Consolidated Financial Statements for additional information.

Interest Expense, Net

Interest expense, net for the second quarter and first half of fiscal 2019 decreased compared with the second quarter and first half of fiscal 2018 primarily due to an increase in interest income resulting from higher interest rates and cash balances in the United States and, to a lesser extent, a decrease in interest expense from the \$250 million 2.875% Senior Notes that matured in August 2018.

Income Taxes

Income tax expense for the second quarter of fiscal 2019 was \$19 million and income tax benefit for the first half of fiscal 2019 was \$65 million compared with income tax expense for the second quarter and first half of fiscal 2018 of \$74 million and \$134 million, respectively. For the second quarter and first half of fiscal 2019, we recorded a net discrete tax benefit of \$16 million and \$114 million, respectively, resulting primarily from refinements to the provisional estimates of the impact of changes in tax law in the United States resulting from the enactment of the Tax Act. For the first half of fiscal 2018, we recorded a net discrete tax benefit of \$8 million resulting primarily from reductions in uncertain tax positions related to effectively settled tax audits.

The cumulative expense recorded for the impacts of the Tax Act are provisional amounts of \$176 million in total, including expense of \$193 million related to the taxation of unremitted earnings of our foreign subsidiaries, which is payable over eight years, partially offset by a benefit of \$113 million related to a dividends received deduction for certain foreign tax credits relating to the fiscal 2018 year calculation of taxation of unremitted earnings, and expense of \$96 million related to the remeasurement of deferred tax assets and liabilities for the change in income tax rates. We will continue to refine the provisional amounts as we review and analyze the historic unremitted earnings of our foreign subsidiaries, as well as the attendant computations that impact the measurement of the taxation of unremitted earnings, and also 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. The \$113 million tax benefit for the dividends received deduction was based on our assessment of the treatment under the provisions of the Tax Act. Congress or the Department of Treasury may provide legislative or regulatory updates which would change our assessment. If legislative or regulatory updates are issued related to this item, the timing of which is uncertain, we may be required to recognize additional tax expense up to the full amount of the \$113 million in the period such updates are issued.

Excluding the impact of discrete items for the first half of fiscal 2019 and fiscal 2018, our estimated annual effective tax rate was 20.8% and 28.6%, respectively. The reduction in our estimated annual effective tax rate is primarily resulting from the Tax Act which provided for a lower statutory tax rate in the United States. Changes in tax laws, the outcome of tax audits and any other changes in potential tax liabilities may result in additional tax expense or benefit in fiscal 2019, which are not considered in our estimated annual effective tax rate. While we do not currently view any such items as individually material to the results of our consolidated financial position or results of operations, the impact of certain items may yield additional tax expense or benefit in the remaining quarters of fiscal 2019.

Performance of Segments

In accordance with FASB ASC Topic 280, *Segment Reporting*, we disaggregate our operations into Mainframe Solutions, Enterprise Solutions and Services segments, which is utilized by the 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 the products operate. The 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 our 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 our revenue recognition policies prior to the adoption of Topic 606. Accordingly, differences in segment revenue and consolidated revenue arise primarily from (a) term and perpetual software licenses that are recognized ratably under our segment policies and in our Condensed Consolidated Statement of Operations for periods prior to the adoption of Topic 606 that, after adoption of Topic 606, are recognized at a point-in-time; and (b) differences in the allocations of contract value among products and services in a contract arising from the use of a relative standalone selling price allocation method in our Condensed Consolidated Statement of Operations for periods after adoption of Topic 606 as compared to the aforementioned approach to assigning contract value to our segments.

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, certain foreign exchange derivative hedging gains and losses, severance and facility actions approved by our Board of Directors, 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 the second quarter and first half of fiscal 2019 and fiscal 2018 was as follows:

Mainframe Solutions	Second Quarter Fiscal 2019		Second Quarter Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	548	\$	539
Segment profit	\$	354	\$	351
Segment operating margin		65%		65%

Mainframe Solutions	First Half Fiscal 2019		First Half Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	1,101	\$	1,075
Segment profit	\$	724	\$	700
Segment operating margin		66%		65%

Mainframe Solutions revenue for the second quarter of fiscal 2019 increased compared with the second quarter of fiscal 2018 primarily due to an increase in revenue from new sales that offset the decline in revenue contribution from renewals, partially offset by an unfavorable foreign exchange effect of \$5 million. Mainframe Solutions operating margin for the second quarter of fiscal 2019 was consistent compared with the second quarter of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue, partially offset by pre-merger costs related to the Merger with Broadcom.

Mainframe Solutions revenue for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to an increase in revenue from new sales that offset the decline in revenue contribution from renewals and, to a lesser extent, a favorable foreign exchange effect of \$5 million. Mainframe Solutions operating margin for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to an increase in Mainframe Solutions revenue.

Enterprise Solutions	Second Quarter Fiscal 2019		Second Quarter Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	423	\$	420
Segment profit	\$	54	\$	40
Segment operating margin		13%		10%

Enterprise Solutions	First Half Fiscal 2019		First Half Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	848	\$	834
Segment profit	\$	114	\$	73
Segment operating margin		13%		9%

Enterprise Solutions revenue for the second quarter of fiscal 2019 increased compared with the second quarter of fiscal 2018 primarily due to an increase in SaaS revenue, partially offset by a decrease in revenue from our Enterprise Solutions products recognized on an upfront basis and an unfavorable foreign exchange effect of \$4 million. Enterprise Solutions operating margin for the second quarter of fiscal 2019 increased compared with the second quarter of fiscal 2018 primarily due to lower acquisition-related costs from prior period acquisitions, partially offset by pre-merger costs related to the Merger with Broadcom, and an increase in Enterprise Solutions revenue.

Enterprise Solutions revenue for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to an increase in SaaS revenue and a favorable foreign exchange effect of \$4 million, partially offset by a decrease in revenue from our Enterprise Solutions products recognized on an upfront basis. Enterprise Solutions operating margin for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to lower acquisition-related costs from prior period acquisitions and an increase in Enterprise Solutions revenue.

Services	Second Quarter Fiscal 2019		Second Quarter Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	74	\$	75
Segment profit	\$	4	\$	1
Segment operating margin		5%		1%

Services	First Half Fiscal 2019		First Half Fiscal 2018	
	<i>(dollars in millions)</i>			
Revenue	\$	148	\$	150
Segment profit	\$	4	\$	2
Segment operating margin		3%		1%

Services revenue for the second quarter of fiscal 2019 decreased compared with the second quarter of fiscal 2018 primarily due to an unfavorable foreign exchange effect. Operating margin for Services for the second quarter of fiscal 2019 increased compared with the second quarter of fiscal 2018 primarily due to lower costs resulting from severance actions associated with the Fiscal 2019 Plan.

Services revenue for the first half of fiscal 2019 decreased compared with the first half of fiscal 2018 primarily due to a decline in professional services engagements. The decline in 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 for the first half of fiscal 2019 increased compared with the first half of fiscal 2018 primarily due to lower costs resulting from severance actions associated with the Fiscal 2019 Plan.

Refer to Note 14, "Segment Information," in the Notes to the Condensed Consolidated Financial Statements for additional information.

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 September 30, 2018. Cash and cash equivalents totaled \$2,931 million at September 30, 2018, representing a decrease of \$474 million from the March 31, 2018 balance of \$3,405 million. During the first half of fiscal 2019, there was a \$118 million unfavorable 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 \$193 million through the second quarter of fiscal 2019. Refer to Note 12, "Income Taxes" in the Notes to the Condensed 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 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 Condensed Consolidated Balance Sheets as "Deferred revenue and advanced payments." 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 the second quarter of fiscal 2019, gross receipts related to single installments for the entire contract value, or a substantial portion of the contract value, were \$34 million compared with \$80 million for the second quarter of fiscal 2018. For the first half of fiscal 2019, gross receipts related to single installments for the entire contract value, or a substantial portion of the contract value, were \$129 million compared with \$274 million for the first half of fiscal 2018.

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.

Net Cash (Used in) Provided by Operating Activities

	Second Quarter of Fiscal		Change
	2019	2018	2019 / 2018
	<i>(in millions)</i>		
Cash collections from billings ⁽¹⁾	\$ 764	\$ 803	\$ (39)
Vendor disbursements and payroll ⁽¹⁾	(628)	(631)	3
Income tax payments, net	(100)	(109)	9
Other disbursements, net ⁽²⁾	(47)	(26)	(21)
Net cash (used in) provided by operating activities	\$ (11)	\$ 37	\$ (48)

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

(2) For the second quarter of fiscal 2019, amount includes \$28 million of payments associated with the Fiscal 2019 Plan, interest, prior period restructuring plans and miscellaneous receipts and disbursements. For the second quarter of fiscal 2018, amount includes payments associated with interest, prior period restructuring plans and miscellaneous receipts and disbursements.

	First Half of Fiscal		Change
	2019	2018	2019 / 2018
	<i>(in millions)</i>		
Cash collections from billings ⁽¹⁾	\$ 1,862	\$ 2,014	\$ (152)
Vendor disbursements and payroll ⁽¹⁾	(1,394)	(1,478)	84
Income tax payments, net	(130)	(156)	26
Other disbursements, net ⁽²⁾	(87)	(45)	(42)
Net cash provided by operating activities	\$ 251	\$ 335	\$ (84)

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

(2) For the first half of fiscal 2019, amount includes \$50 million of payments associated with the Fiscal 2019 Plan, interest, prior period restructuring plans and miscellaneous receipts and disbursements. For the first half of fiscal 2018, amount includes payments associated with interest, prior period restructuring plans and miscellaneous receipts and disbursements.

Second Quarter Comparison Fiscal 2019 Versus Fiscal 2018

Operating Activities

Net cash used in operating activities for the second quarter of fiscal 2019 was \$11 million, representing a decrease of \$48 million compared with net cash provided by operating activities of \$37 million for the second quarter of fiscal 2018. The decrease in net cash from operating activities was primarily due to a decrease in cash collections from billings of \$39 million mainly attributable to lower single installment collections and an increase in other disbursements, net of \$21 million mainly from payments associated with the Fiscal 2019 Plan, partially offset by a decrease in income tax payments, net of \$9 million compared with the year-ago period.

Investing Activities

Net cash used in investing activities for the second quarter of fiscal 2019 was \$13 million compared with \$20 million for the second quarter of fiscal 2018. The decrease in net cash used in investing activities was primarily due to a decrease in cash paid for acquisitions and purchased software of \$9 million compared with the year-ago period.

Financing Activities

Net cash used in financing activities for the second quarter of fiscal 2019 was \$359 million compared with \$215 million for the second quarter of fiscal 2018. The increase in net cash used in financing activities was primarily due to an increase in debt repayments of \$251 million mainly from the repayment of the \$250 million 2.875% Senior Notes in August 2018, partially offset by a decrease in common stock repurchases of \$90 million and an increase in net debt borrowings from our notional pooling arrangement of \$12 million compared with the year-ago period.

First Half Comparison Fiscal 2019 Versus Fiscal 2018

Operating Activities

Net cash provided by operating activities for the first half of fiscal 2019 was \$251 million, representing a decrease of \$84 million compared with the first half of fiscal 2018. The decrease in net cash provided by operating activities was primarily due to a decrease in cash collections from billings of \$152 million mainly attributable to lower single installment collections and an increase in other disbursements, net of \$42 million mainly from payments associated with the Fiscal 2019 Plan, partially offset by a decrease in vendor disbursements and payroll of \$84 million and a decrease in income tax payments, net of \$26 million compared with the year-ago period.

Investing Activities

Net cash used in investing activities for the first half of fiscal 2019 was \$50 million compared with \$38 million for the first half of fiscal 2018. The increase in net cash used in investing activities was primarily due to an increase in cash paid for acquisitions and purchased software of \$10 million compared with the year-ago period.

Financing Activities

Net cash used in financing activities for the first half of fiscal 2019 was \$558 million compared with \$381 million for the first half of fiscal 2018. The increase in net cash used in financing activities was primarily due to an increase in debt repayments of \$250 million from the repayment of the 2.875% Senior Notes in full in August 2018, partially offset by a decrease in net debt repayments from our notional pooling arrangement of \$54 million, an increase in exercises of common stock options of \$16 million and a decrease in common stock repurchases of \$10 million compared with the year-ago period.

Debt Obligations

At September 30, 2018 and March 31, 2018, our debt obligations consisted of the following:

	September 30, 2018	March 31, 2018
	(in millions)	
Revolving credit facility	\$ —	\$ —
2.875% Senior Notes due August 2018	—	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	278	285
Other indebtedness, primarily capital leases	8	10
Unamortized debt issuance costs	(9)	(11)
Unamortized discount for Senior Notes	(1)	(1)
Total debt outstanding	\$ 2,526	\$ 2,783
Less the current portion	(20)	(269)
Total long-term debt portion	\$ 2,506	\$ 2,514

Senior Notes

In August 2018, we repaid our 2.875% Senior Notes in full for \$250 million.

Term Loan and Revolving Credit Facility

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. On November 5, 2018, in connection with the completion of the Merger and as required by the terms of the Merger Agreement with Broadcom, we prepaid (or caused to be prepaid) in full all obligations outstanding and terminated all commitments under the Revolving Credit Agreement and the Term Loan Agreement.

Other Indebtedness

We had \$114 million of unsecured and uncommitted multi-currency lines of credit at September 30, 2018 and March 31, 2018 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 September 30, 2018 and March 31, 2018, \$56 million and \$60 million, respectively, of these lines of credit were pledged in support of bank guarantees and other local credit lines. At September 30, 2018 and March 31, 2018, none of these arrangements were drawn down by third parties.

We use a notional pooling arrangement with an international bank to help manage global liquidity. Under this pooling arrangement, we and our 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 us and our participating subsidiaries favorable interest terms on both. The activity under this notional pooling arrangement for the six months ended September 30, 2018 and 2017 was as follows:

	Six Months Ended September 30,	
	2018	2017
	(in millions)	
Total borrowings outstanding at beginning of period ⁽¹⁾	\$ 137	\$ 137
Borrowings	1,076	1,173
Repayments	(1,053)	(1,204)
Foreign exchange effect	(24)	31
Total borrowings outstanding at end of period ⁽¹⁾	\$ 136	\$ 137

(1) Included in "Accrued expenses and other current liabilities" in our Condensed Consolidated Balance Sheets.

For additional information concerning our debt obligations, refer to our consolidated financial statements and notes thereto included in our 2018 Form 10-K.

Effect of Exchange Rate Changes

There was a \$118 million unfavorable foreign currency translation effect on our cash balances for the first half of fiscal 2019 predominantly due to the strengthening of the U.S. dollar against the euro (6%), the Brazilian real (18%), the British pound sterling (7%), the Indian rupee (10%) and the Israeli shekel (3%).

There was a \$136 million favorable foreign currency translation effect on our cash balances for the first half of fiscal 2018 predominantly due to the weakening of the U.S. dollar against the euro (11%), the British pound sterling (7%) and the Canadian dollar (7%).

CRITICAL ACCOUNTING POLICIES AND BUSINESS PRACTICES

The preparation of financial statements in accordance with GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses. We base our estimates on historical experience and various other assumptions that we believe are reasonable under the circumstances. Our estimates form the basis for making judgments about amounts and timing of revenue and expenses, the carrying values of assets and the recorded amounts of liabilities that are not readily apparent from other sources. Actual results may differ from these estimates and the estimates may change if the underlying conditions or assumptions change. Information with respect to our critical accounting policies that we believe could have the most significant effect on our reported results or require subjective or complex judgments by management is contained in our 2018 Form 10-K under Management's Discussion and Analysis of Financial Condition and Results of Operations. At September 30, 2018, there was no material change to our critical accounting policies or the methodologies or assumptions we apply under them since March 31, 2018 other than the impact of adopting Topic 606. Refer to Note 2, "Revenue from Contracts with Customers," and Note 3, "Impact of Adopting Topic 606," in the Notes to the Condensed Consolidated Financial Statements for a discussion of the changes in our policies for revenue recognition and commissions, and the required disclosures related to the impact of adopting Topic 606.

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, "Accounting Policies," in the Notes to the Condensed Consolidated Financial Statements.

Item 3: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

For quantitative and qualitative disclosures about market risk, see Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," of our 2018 Form 10-K. Our exposures to market risk have not changed materially subsequent to March 31, 2018.

Item 4: CONTROLS AND PROCEDURES

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 Company's 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 quarterly report.

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 period covered by this quarterly report that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

As previously disclosed, the Company adopted the new revenue recognition guidance under Topic 606 in the first quarter of fiscal year 2019. The adoption required the Company to establish new accounting policies and implement new accounting processes, including internal controls necessary to have reasonable assurance that the new accounting policy and process objectives are met. These processes and the related internal controls were not subject to the Company's most recent annual evaluation and assessment of internal control over financial reporting. Significant changes arising from the adoption of Topic 606 include a new revenue recognition software system to measure periodic revenue, interfaces between the new IT system and the Company's legacy IT systems, processes to estimate stand-alone selling price for performance obligations, and additional or modified controls to identify performance obligations in its contracts, validate data accuracy in its IT systems, and identify and separately account for customer contract modifications. As a result, the changes in the Company's internal controls and processes to meet the requirements of Topic 606 had a material effect on its internal control over financial reporting during fiscal year 2019.

PART II. OTHER INFORMATION**Item 1. LEGAL PROCEEDINGS**

Refer to Note 8, “Commitments and Contingencies,” in the Notes to the Condensed Consolidated Financial Statements for information regarding certain legal proceedings, the contents of which are herein incorporated by reference.

Item 1A. RISK FACTORS

Current and potential stockholders should consider carefully the risk factors described in more detail in our 2018 Form 10-K. We believe that as of September 30, 2018, there has been no material change to this information. Any of these factors, or others, many of which are beyond our control, could materially adversely affect our business, financial condition, operating results, cash flow and stock price.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The following table sets forth, for the months indicated, our purchases of common stock in the second quarter of fiscal 2019:

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 ⁽¹⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
<i>(in thousands, except average price paid per share)</i>				
July 1, 2018 - July 31, 2018	—	\$ —	—	\$ 406,509
August 1, 2018 - August 31, 2018	—	—	—	406,509
September 1, 2018 - September 30, 2018	—	—	—	406,509
Total	<u>—</u>	<u>\$ —</u>	<u>—</u>	<u>\$ 406,509</u>

(1) In November 2015, our Board of Directors approved a stock repurchase program that authorized us to acquire up to \$750 million of our common stock.

Item 3. DEFAULTS UPON SENIOR SECURITIES

None.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5. OTHER INFORMATION

None.

Item 6. EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed or Furnished Herewith
		Form	Exhibit	Filing Date	
2.1	Agreement and Plan of Merger, dated as of July 11, 2018, by and among Broadcom Inc., Collie Acquisition Corp. and CA, Inc.	8-K	2.1	7/12/18	
3.1	Restated Certificate of Incorporation.	8-K	3.3	3/9/06	
3.2	By-Laws of the Company, as amended.	10-K	3.2	5/8/15	
4.1	Amendment No. 1 to the Stockholder Protection Rights Agreement, dated as of July 11, 2018, by and between CA, Inc. and Computershare Trust Company, N.A.	8-K	4.1	7/12/18	
10.1	2011 Incentive Plan, as amended and restated.	8-K	10.1	8/10/18	
10.2	Change in Control Severance Policy, as amended.	8-K	10.2	8/10/18	
15	Accountants' Acknowledgment Letter.				X
31.1	Certification of the Principal Executive Officer pursuant to §302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of the Principal Financial Officer 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

SIGNATURES

Pursuant to the requirements 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

By: /s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer

Dated: November 7, 2018

November 7, 2018
CA, Inc.
520 Madison Avenue
New York, New York 10022

Re: Registration Statement No. 333-218008 on Form S-3 and Registration Statement 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.

With respect to the subject registration statements, we acknowledge our awareness of the use therein of our report dated November 7, 2018 related to our review of interim financial information.

Pursuant to Rule 436 under the Securities Act of 1933 (the Act), such report is not considered part of a registration statement prepared or certified by an independent registered public accounting firm, or a report prepared or certified by an independent registered public accounting firm within the meaning of Sections 7 and 11 of the Act.

/s/ KPMG LLP

New York, New York

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

I, Michael P. Gregoire, certify that:

1. I have reviewed the Quarterly Report on Form 10-Q of CA, Inc. for its most recent fiscal quarter;
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: November 7, 2018

/s/ Michael P. Gregoire

Michael P. Gregoire
Chief Executive Officer
CA, Inc.

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

I, Kieran J. McGrath, certify that:

1. I have reviewed the Quarterly Report on Form 10-Q of CA, Inc. for its most recent fiscal quarter;
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: November 7, 2018

/s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief
Financial Officer
CA, Inc.

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

In connection with the Quarterly Report on Form 10-Q of CA, Inc., a Delaware corporation (the "Company"), for the fiscal quarter ended September 30, 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
November 7, 2018

/s/ Kieran J. McGrath

Kieran J. McGrath
Executive Vice President and Chief Financial Officer
November 7, 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.