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

FORM 10-K/A
(Amendment No. 1)

(Mark one)

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

For the fiscal year ended July 31, 2019

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: 001-35394

Guidewire Software, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**36-4468504**
(State or other jurisdiction of Incorporation or organization)	**(I.R.S. Employer Identification No.)**

2850 S. Delaware St., Suite 400, San Mateo, California, 94403

(Address of principal executive offices, including zip code)

(650) 357-9100

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

(Title of class)	(Trading Symbol(s))	(Name of exchange on which registered)
Common Stock, $0.0001 par value	GWRE	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark whether the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 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 definition of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

The aggregate market value of common stock held by non-affiliates of the registrant, computed by reference to the closing price at which the common stock was sold on January 31, 2019, the last business day of the registrant's most recently completed second fiscal quarter, as reported on the New York Stock Exchange, was approximately $4.4 billion. Shares of common stock held by each executive officer, director and holder of 5% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status does not reflect a determination that such persons are affiliates of the registrant for any other purpose.

On August 31, 2019, the registrant had 82,143,313 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s definitive Proxy Statement relating to its 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this report where indicated. Such Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

EXPLANATORY NOTE

Guidewire Software, Inc. (the "Company") is filing this Amendment No. 1 (this "Amendment") to its Annual Report on Form 10-K for the fiscal year ended July 31, 2019 (the "Form 10-K") to include KPMG LLP's conformed signature in the Report of Independent Registered Public Accounting Firm which was inadvertently omitted in the as-filed version. No other changes have been made to the Form 10-K.

This Amendment does not reflect events occurring after the filing of the Form 10-K, does not update disclosures contained in the Form 10-K and does not modify or amend the Form 10-K except as specifically described above. This Amendment contains the complete text of Item 8. Financial Statements and currently dated certifications of the Company's Principal Executive Officer and Principal Financial Officer pursuant to Rule 12b-15 of the Securities Exchange Act of 1934, as amended, as well as updated inline XBRL exhibits.

PART II

Item 8. Financial Statements and Supplemental Data

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

The supplementary financial information required by this Item 8 is included in Item 7 under the caption "Quarterly Results of Operations."

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Guidewire Software, Inc.:

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

We have audited the accompanying consolidated balance sheets of Guidewire Software, Inc. and subsidiaries (the Company) as of July 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended July 31, 2019, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of July 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of July 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended July 31, 2019, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of July 31, 2019 based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for revenue from contracts with customers in the year ended July 31, 2019 due to the adoption of FASB Accounting Standards Update 2014-09, *Revenue from Contracts with Customers (Topic 606)*.

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgment. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of revenue related to on-premise software arrangements with terms that are not standard

The Company recognized total revenue of $719.5 million for the year ended July 31, 2019. As discussed in Notes 1 and 2 to the consolidated financial statements, revenue was derived principally from on-premise software licensing arrangements and may include implementation and other professional services. The Company's on-premise software licensing arrangements generally have a two-year initial term with a customer option to renew on an annual basis after the initial term. Consideration for on-premise software licenses is typically billed in advance on an annual basis over the license term.

We identified the evaluation of revenue from on-premise software licensing arrangements with terms and conditions that are not standard as a critical audit matter. Significant auditor judgment was required to evaluate the Company's assessment of the impact on revenue recognition of terms and conditions that are not standard. The evaluation included the Company's accounting for contract modifications, accounting for arrangements that include an extension of an existing license term, and the Company's determination of the amounts of revenue to be allocated to multiple promised goods or services in the contract.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's review of customer agreements, including controls over the identification and evaluation of on-premise software licensing arrangements with terms and conditions that are not standard. We tested certain on-premise software licensing arrangements by reading the underlying customer agreement and evaluating the Company's assessment of the contractual terms and conditions in accordance with revenue recognition requirements. Specifically, this included an evaluation of the Company's identification and assessment of terms and conditions that were not standard that could give rise to special accounting consideration. Additionally, we obtained external confirmation directly from certain of the Company's customers to assess that key terms and conditions relevant to the Company's revenue recognition were included in the Company's written customer agreement.

/s/ KPMG LLP

We have served as the Company's auditor since 2006.

Santa Clara, California
September 30, 2019

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except for share data)

	July 31, 2019	July 31, 2018
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 254,101	$ 437,140
Short-term investments	870,136	630,008
Accounts receivable, net of allowances of $1,441 and $1,062, respectively	138,443	124,849
Unbilled accounts receivable, net	36,728	—
Prepaid expenses and other current assets	35,566	30,464
Total current assets	1,334,974	1,222,461
Long-term investments	213,524	190,952
Unbilled accounts receivable, net	9,375	—
Property and equipment, net	65,809	18,595
Intangible assets, net	66,542	95,654
Goodwill	340,877	340,877
Deferred tax assets, net	90,308	90,369
Other assets	$ 45,554	22,525
TOTAL ASSETS	$ 2,166,963	$ 1,981,433
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 34,255	$ 30,635
Accrued employee compensation	73,365	60,135
Deferred revenue, net	108,304	127,107
Other current liabilities	16,348	20,280
Total current liabilities	232,272	238,157
Convertible senior notes, net	317,322	305,128
Deferred revenue, net	23,527	23,758
Other liabilities	19,641	774
Total liabilities	592,762	567,817
Commitments and contingencies (Note 7)		
STOCKHOLDERS' EQUITY:		
Common stock, par value $0.0001 per share—500,000,000 shares authorized as of July 31, 2019 and 2018; 82,140,883 and 80,611,698 shares issued and outstanding as of July 31, 2019 and 2018, respectively	8	8
Additional paid-in capital	1,391,904	1,296,380
Accumulated other comprehensive loss	$ (7,758)	$ (7,748)
Retained earnings	190,047	124,976
Total stockholders' equity	1,574,201	1,413,616
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	2,166,963	1,981,433

See accompanying Notes to Consolidated Financial Statements.

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share amounts)

	Fiscal years ended July 31,		
	2019	**2018**	**2017**
Revenue:			
License and subscription	$ 385,322	$ 309,007	$ 266,711
Maintenance	85,424	77,337	68,643
Services	248,768	266,505	174,179
Total revenue	719,514	652,849	509,533
Cost of revenue:			
License and subscription	64,798	35,452	17,046
Maintenance	16,499	14,783	13,397
Services	243,053	246,548	161,116
Total cost of revenue	324,350	296,783	191,559
Gross profit:			
License and subscription	320,524	273,555	249,665
Maintenance	68,925	62,554	55,246
Services	5,715	19,957	13,063
Total gross profit	395,164	356,066	317,974
Operating expenses:			
Research and development	188,541	171,657	130,323
Sales and marketing	130,751	124,117	109,239
General and administrative	74,401	75,916	56,551
Total operating expenses	393,693	371,690	296,113
Income (loss) from operations	1,471	(15,624)	21,861
Interest income	30,182	13,281	5,867
Interest expense	(17,334)	(6,442)	(13)
Other income (expense), net	(1,867)	509	811
Income (loss) before provision for income taxes	12,452	(8,276)	28,526
Provision for (benefit from) income taxes	(8,280)	18,467	10,454
Net income (loss)	$ 20,732	$ (26,743)	$ 18,072
Net income (loss) per share:			
Basic	$ 0.25	$ (0.34)	$ 0.24
Diluted	$ 0.25	$ (0.34)	$ 0.24
Shares used in computing net income (loss) per share:			
Basic	81,447,998	77,709,592	73,994,577
Diluted	82,681,214	77,709,592	75,328,343

See accompanying Notes to Consolidated Financial Statements.

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	As of July 31,		
	2019	2018	2017
Net income (loss)	$ 20,732	$ (26,743)	$ 18,072
Other comprehensive income (loss):			
Foreign currency translation adjustments	(1,841)	(1,567)	1,179
Unrealized gains (losses) on available-for-sale securities	2,956	(596)	(465)
Tax benefit (expense) on unrealized gains (losses) on available-for-sale securities	(573)	233	234
Reclassification adjustment for realized gains (losses) included in net income (loss)	(552)	(22)	(151)
Total other comprehensive income (loss)	(10)	(1,952)	797
Comprehensive income (loss)	$ 20,722	$ (28,695)	$ 18,869

See accompanying Notes to Consolidated Financial Statements.

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except for share data)

	Common stock		Additional paid-in capital	Accumulated other comprehensive income (loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount				
Balance as of July 31, 2016	**73,039,919**	**$ 7**	**$ 742,690**	**$ (6,593)**	**$ 47,831**	**$ 783,935**
Net income	—	—	—	—	18,072	18,072
Stock-based compensation	—	—	72,695	—	—	72,695
Issuance of common stock upon exercise of stock options	594,936	—	5,563	—	—	5,563
Issuance of common stock upon restricted stock units ("RSU") release	1,372,770	1	(1)	—	—	—
Foreign currency translation adjustment	—	—	—	1,179	—	1,179
Unrealized loss on available-for-sale securities, net of tax	—	—	—	(231)	—	(231)
Reclassification adjustment for realized gain on available-for-sale securities, included in net income	—	—	—	(151)	—	(151)
Tax benefit from the exercise of stock options and vesting of RSUs	—	—	7,468	—	—	7,468
Balance as of July 31, 2017	**75,007,625**	**$ 8**	**$ 828,415**	**$ (5,796)**	**$ 65,903**	**$ 888,530**
Net loss	—	—	—	—	(26,743)	(26,743)
Stock-based compensation	—	—	89,176	—	—	89,176
Issuance of common stock upon exercise of stock options	150,924	—	2,013	—	—	2,013
Issuance of common stock upon RSU release	1,255,605	—	—	—	—	—
Foreign currency translation adjustment	—	—	—	(1,567)	—	(1,567)
Unrealized loss on available-for-sale securities, net of tax	—	—	—	(363)	—	(363)
Reclassification adjustment for realized gain on available-for-sale securities, included in net income	—	—	—	(22)	—	(22)
Issuance of common stock for Cyence acquisition	1,568,973	—	117,457	—	—	117,457
Public offering, net of issuance cost	2,628,571	—	220,948	—	—	220,948
Equity component of convertible senior notes, net of issuance cost	—	—	74,562	—	—	74,562
Purchase of capped calls	—	—	(37,200)	—	—	(37,200)
Adoption of new accounting standard (ASU 2016-09)	—	—	1,009	—	85,816	86,825
Balance as of July 31, 2018	**80,611,698**	**$ 8**	**$ 1,296,380**	**$ (7,748)**	**$ 124,976**	**$ 1,413,616**
Net income	—	—	—	—	20,732	20,732
Stock-based compensation	—	—	91,570	—	—	91,570
Issuance of common stock upon exercise of stock options	301,901	—	3,954	—	—	3,954
Issuance of common stock upon RSU release	1,276,252	—	—	—	—	—
Foreign currency translation adjustment	—	—	—	(1,841)	—	(1,841)
Unrealized gain on available-for-sale securities, net of tax	—	—	—	2,383	—	2,383
Reclassification adjustment for realized gain on available-for-sale securities, included in net income	—	—	—	(552)	—	(552)
Cancellation of Common Stock for Cyence acquisition	(48,968)	—	—	—	—	—
Adoption of new accounting standard (Topic 606)	—	—	—	—	44,339	44,339
Balance as of July 31, 2019	**82,140,883**	**$ 8**	**$ 1,391,904**	**$ (7,758)**	**$ 190,047**	**$ 1,574,201**

See accompanying Notes to Consolidated Financial Statements.

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Fiscal years ended July 31, 2019	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss)	$ 20,732	$ (26,743)	$ 18,072
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	39,953	35,611	18,725
Amortization of debt discount and issuance costs	12,194	4,512	—
Stock-based compensation	91,516	89,614	71,794
Excess tax benefit from stock-based compensation	—	—	(7,468)
Charges to bad debt and revenue reserves	670	1,062	—
Deferred income tax	(13,998)	14,150	(1,227)
Amortization of premium (accretion of discount) on available-for-sale securities, and other non-cash items	(7,568)	(1,418)	1,462
Changes in operating assets and liabilities:			
Accounts receivable	(15,057)	(40,832)	(9,750)
Unbilled accounts receivable	(17,341)	—	—
Prepaid expenses and other assets	(16,251)	(2,737)	(9,463)
Accounts payable	(5,521)	16,794	1,311
Accrued employee compensation	13,825	9,230	7,138
Deferred revenue, net	(9,628)	32,358	41,553
Other liabilities	22,600	8,858	6,612
Net cash provided by operating activities	116,126	140,459	138,759
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of available-for-sale securities	(1,209,312)	(859,657)	(462,035)
Sales and maturities of available-for-sale securities	956,736	464,143	547,630
Purchases of property and equipment	(44,921)	(9,398)	(5,886)
Capitalized software development costs	(3,936)	(2,613)	(784)
Acquisitions of business, net of acquired cash	—	(130,059)	(187,590)
Strategic investment	—	—	(4,677)
Net cash used in investing activities	(301,433)	(537,584)	(113,342)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of convertible senior notes, net of issuance costs	—	387,239	—
Proceeds from issuance of common stock, net of issuance costs	—	220,948	—
Purchase of capped calls	—	(37,200)	—
Proceeds from issuance of common stock upon exercise of stock options	3,954	2,013	5,563
Excess tax benefit from exercise of stock options and vesting of restricted stock units	—	—	7,468
Net cash provided by financing activities	3,954	573,000	13,031
Effect of foreign exchange rate changes on cash and cash equivalents	(1,686)	(1,911)	1,146
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(183,039)	173,964	39,594
CASH AND CASH EQUIVALENTS—Beginning of period	437,140	263,176	223,582
CASH AND CASH EQUIVALENTS—End of period	$ 254,101	$ 437,140	$ 263,176
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for interest	$ 5,036	$ —	$ —
Cash paid for income taxes, net of tax refunds	$ 4,557	$ 4,744	$ 3,700
Accruals for purchases of property and equipment	10,763	$ 1,508	$ 1,376
Accruals for capitalized software development costs	298	$ 189	$ 171

See accompanying Notes to Consolidated Financial Statements.

GUIDEWIRE SOFTWARE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. The Company and Summary of Significant Accounting Policies

Company

Guidewire Software, Inc., a Delaware corporation, was incorporated on September 20, 2001. Guidewire Software, Inc., together with its subsidiaries (the "Company"), provides a technology platform which consists of three key elements: core transaction processing, data management and analytics, and digital engagement. The Company's technology platform supports core insurance operations, including underwriting and policy administration, claim management and billing; insights into data that can improve business decision making; and digital sales, service and claims experiences for policyholders, agents, and other key stakeholders. The Company's customers are primarily property and casualty insurance carriers.

Public Offerings

In March 2018, the Company completed a public offering of 2,628,571 shares of its common stock, including the sale of shares in connection with the underwriters' exercise in full of their option to purchase additional shares of common stock from the Company. The public offering price of the shares sold in the offering was $87.50 per share. No shares were sold by the Company's stockholders in this public offering. Concurrently, the Company completed a sale of $400.0 million aggregate principal amount of 1.25% Convertible Senior Notes due 2025 (the "Convertible Senior Notes"), including amounts sold in connection with the underwriters' exercise in full of their option to purchase additional Convertible Senior Notes. Net of offering expenses and underwriting discounts ("issuance costs"), the Company received net proceeds of approximately $220.9 million related to the common stock offering and $387.2 million related to the convertible note offering.

Basis of Presentation and Consolidation

The Company's consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP"). The consolidated financial statements and notes include the Company and its wholly-owned subsidiaries and reflect all adjustments (all of which are normal and recurring in nature) that, in the opinion of management, are necessary for a fair presentation of the periods presented. All intercompany balances and transactions have been eliminated in consolidation.

Restatement of Annual Consolidated Financial Statements

On June 3, 2019, the Company filed Amendment No. 1 to its Annual Report on Form 10-K (the "2018 Form 10-K/A") for the fiscal year ended July 31, 2018. The Company filed the 2018 Form 10-K/A to reflect restatements of its audited consolidated financial statements as of and for the fiscal years ended July 31, 2018 and 2017. Specifically, the 2018 Form 10-K/A reflected restatements of the Company's Consolidated Balance Sheets at July 31, 2018 and 2017, and its Consolidated Statements of Operations, Comprehensive Income (Loss), Stockholders' Equity and Cash Flows for the fiscal years ended July 31, 2018 and 2017, and the related notes thereto, as a result of the correction of errors primarily related to a misapplication of the vendor specific objective evidence ("VSOE") provisions of the prior revenue recognition guidance applicable to certain customer contracts under Accounting Standards Codification ("ASC") 605 (the "VSOE error").

The Company also corrected the previously filed consolidated financial statements for the year ended July 31, 2018 for errors related to professional services arrangements (the "other corrections") that were deemed immaterial when they were originally identified. Additionally, the Company corrected the provision for income taxes to reflect the impact of the VSOE error and other corrections (together with the tax correction, the "adjustments" or the "restatement"). Accordingly, amounts in certain prior period disclosures reflect the amounts as filed in the 2018 Form 10-K/A.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions about future events that affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities, and reported amounts of revenue and expenses. Significant items subject to such estimates include, but are not limited to, revenue recognition, the useful lives of property and equipment and intangible assets, allowance for doubtful accounts, valuation allowance for deferred tax assets, stock-based compensation, annual bonus attainment, income tax uncertainties, fair value of convertible senior notes and investments, valuation of goodwill and intangible assets, fair value of acquired assets and assumed liabilities, software development costs to be capitalized, and contingencies. These estimates and assumptions are based on management's best estimates and judgment. Management regularly evaluates its estimates and assumptions using historical experience and other factors; however, actual results could differ from these estimates.

Foreign Currency

The functional currency of the Company's foreign subsidiaries is their respective local currency. The Company translates all assets and liabilities of foreign subsidiaries to U.S. dollars at the current exchange rate as of the applicable balance sheet date. Revenue and expenses are translated at the average exchange rate prevailing during the period in which the transactions occur. The effects of foreign currency translations are recorded in accumulated other comprehensive income (loss) as a separate component of stockholders' equity in the accompanying consolidated balance sheets. Transaction gains and losses that arise from exchange rate fluctuations on transactions denominated in a currency other than the functional currency of the recording entity are presented as other income (expense) in the consolidated statements of operations.

Cash and Cash Equivalents

Cash and cash equivalents are comprised of cash and highly liquid investments with remaining maturities of 90 days or less at the date of purchase. Cash equivalents primarily consist of commercial paper and money market funds.

Investments

Management determines the appropriate classification of investments at the time of purchase based upon management's intent with regard to such investments. All investments have been classified as available-for-sale in the periods presented.

The Company classifies investments as short-term when they have remaining contractual maturities of one year or less from the balance sheet date, and as long-term when the investments have remaining contractual maturities of more than one year from the balance sheet date. All investments are recorded at fair value with unrealized holding gains and losses included in accumulated other comprehensive income (loss).

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets. Maintenance and repairs that do not extend the life or improve an asset are expensed in the period incurred.

The estimated useful lives of property and equipment are as follows:

Computer hardware	3 years
Purchased software	3 years
Equipment and machinery	3 to 5 years
Furniture and fixtures	5 years
Leasehold improvements	Shorter of 10 years or remaining lease term

Software Development Costs

Certain on-premise software development costs incurred subsequent to the establishment of technological feasibility are subject to capitalization and amortized over the estimated lives of the related products. Technological feasibility is established upon completion of a working model. Costs incurred subsequent to the establishment of technological feasibility have not been material and, therefore, all software development costs related to on-premise software have been charged to research and development expense in the accompanying consolidated statements of operations as incurred.

For qualifying costs incurred for computer software developed for internal use, the Company begins to capitalize costs when preliminary development efforts are successfully completed, management has authorized and committed project funding, and it is probable that the project will be completed. If any of these criteria cease being met before the software reaches its intended use, any capitalized costs related to the project will be impaired. When the software reaches its intended use, capitalized costs are amortized to expenses over the estimated useful lives of the related assets, generally estimated to be three to five years. Costs incurred prior to meeting these capitalization criteria and costs incurred for training and maintenance are expensed as incurred and recorded in research and development expense on the Company's consolidated statements of operations. Capitalized software development costs are recorded in property and equipment on the Company's consolidated balance sheets.

Impairment of Long-Lived Assets, Intangible Assets, and Goodwill

The Company evaluates its long-lived assets, consisting of property and equipment and intangible assets, for indicators of possible impairment when events or changes in circumstances indicate that the carrying amount of certain assets may not be recoverable. Impairment exists if the carrying amount of such assets exceed the estimates of future net undiscounted cash flows expected to be generated by such assets. Should impairment exist, the impairment loss would be measured based on the excess carrying amount of the assets over the estimated fair value of the assets.

The Company tests goodwill for impairment annually, during the fourth quarter of each fiscal year, and in the interim whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The Company evaluates qualitative factors to determine whether it is more likely than not that the fair value of the Company's single reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. In performing the qualitative assessment, the Company considers events and circumstances, including, but not limited to, macroeconomic conditions, industry and market considerations, cost factors, overall financial performance, changes in management or key personnel, changes in strategy, changes in customers, changes in the composition or carrying amount of a reporting unit's net assets, and changes in the price of the Company's common stock. If, after assessing the totality of events or circumstances, the Company determines that it is more likely than not that the fair value of a reporting unit is greater than its carrying amount, then the two-step goodwill impairment test is not performed. There have been no goodwill impairments during the periods presented.

Convertible Senior Notes

In March 2018, the Company issued $400.0 million aggregate principal amount of 1.25% Convertible Senior Notes due 2025 (the "Convertible Senior Notes"). The Company accounts for the liability and equity components of the issued Convertible Senior Notes separately. The carrying amount of the equity component, representing the conversion option, was determined by deducting the fair value of the liability component from the par value of the Convertible Senior Notes as a whole. This difference represents a debt discount that is amortized to interest expense using the effective interest method over the term of the Convertible Senior Notes. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The liability and equity components will not be remeasured as long as the conversion option continues to meet the requirements for equity classification. The equity component is net of issuance costs and recorded in additional paid in capital.

Business Combinations

The Company uses its best estimates and assumptions to assign fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date. Goodwill is calculated as the difference between the acquisition-date fair value of the consideration transferred and the values assigned to the assets acquired and liabilities assumed. The Company's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and subject to refinement and, as a result, actual results may differ from estimates. During the measurement period, which may be up to one year from the acquisition date, if new information is obtained about facts and circumstances that existed as of the acquisition date, the Company may record adjustments to the fair value of these assets and liabilities, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired and liabilities assumed, whichever comes first, subsequent adjustments, if any, are recorded to the Company's consolidated statements of operations.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash, cash equivalents, investments, and accounts receivable. The Company maintains its cash, cash equivalents and investments with high quality financial institutions. The Company is exposed to credit risk for cash held in financial institutions in the event of a default to the extent that such amounts recorded on the consolidated balance sheets are in excess of amounts that are insured by the Federal Deposit Insurance Corporation ("FDIC").

No customer individually accounted for 10% or more of the Company's revenue for the years ended July 31, 2019, 2018 and 2017. As of July 31, 2019 and 2018, no customer accounted for 10% or more of the Company's total accounts receivable.

Accounts Receivable and Allowance for Doubtful Accounts and Revenue Reserves

Accounts receivable are recorded at invoiced amounts and do not bear interest. While the Company does not require collateral, the Company performs ongoing credit evaluations of its customers. The Company maintains an allowance for doubtful accounts based upon the expected collectability of its accounts receivable. The expectation of collectability is based on historical loss patterns, the number of days that billings are past due, and an evaluation of the potential risk of loss associated with delinquent accounts.

Revenue Recognition

The Company's revenue is derived from contracts with customers. The majority of the Company's revenue is derived from licensing arrangements that can span multiple years, and implementation and other professional services arrangements. The Company accounts for revenue in accordance with ASC 606, which the Company adopted on August 1, 2018 using the modified retrospective method. Refer to Note 1 to the consolidated financial statements included in the Company's Annual Report on Form 10-K/A for the fiscal year ended July 31, 2018 for a description of the Company's revenue recognition policy prior to August 1, 2018. The core principle of ASC 606 is to recognize revenue upon the transfer of services or products to customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those services or products. The Company applies the following framework to recognize revenue:

Identification of the contract, or contracts, with the customer

The Company considers the terms and conditions of written contracts and its customary business practices in identifying its contracts under ASC 606. The Company determines it has a contract with a customer when the contract is approved, the Company can identify each party's rights regarding the services and products to be transferred, the Company can identify the payment terms for the services and products, the Company has determined that the customer has the ability and intent to pay, and the contract has commercial substance. In general, contract terms will be reflected in a written document that is signed by both parties. At contract inception, the Company evaluates whether two or more contracts should be combined and accounted for as a single contract. The Company also evaluates the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit and financial information pertaining to the customer.

Identification of the performance obligation in the contract

Performance obligations promised in a contract are identified based on the services or products that will be transferred to the customer that are both:

i. capable of being distinct, whereby the customer can benefit from the service or product either on its own or together with other resources that are readily available from the Company or third parties, and

ii. distinct in the context of the contract, whereby the transfer of the services or products is separately identifiable from other promises in the contract.

To the extent a contract includes multiple promised services or products, the Company applies judgment to determine whether promised services or products are capable of being distinct and distinct in the context of the contract. If these criteria are not met, the promised services or products are accounted for as a combined performance obligation.

The Company generates revenue from the following sources, which represent the performance obligations of the Company:

i. On-premise software licenses related to term or perpetual agreements;

ii. Maintenance activities that consist of email and phone support, bug fixes, and unspecified software updates and upgrades released when, and if, available during the maintenance term;

iii. Subscription services related to the Company's Software-as-a-Service ("SaaS") offerings, including hosting; and

iv. Services related to the implementation and configuration of the Company's software, reimbursable travel, and training.

Term licenses generally have a two-year initial term with a customer option to renew on an annual basis after the initial term. Maintenance for term licenses follows the same contract periods. Subscriptions are typically sold with a three- to five-year initial term with a customer option to renew on an annual basis after the initial term. Professional services typically are time and materials contracts that last for an average period of approximately one year.

Determination of the transaction price

The transaction price is determined based on the consideration to which the Company expects to be entitled in exchange for transferring services and products to the customer. Variable consideration is estimated and included in the transaction price if, in the Company's judgment, it is probable that there will not be a significant future reversal of cumulative revenue under the contract.

On-premise software licenses and subscription services may be subject to either fixed or variable installments. Variable installments are generally subject to changes in a customer's Direct Written Premium ("DWP") or a customer's Gross Written Premium ("GWP"). When consideration is subject to variable installments, the Company estimates variable consideration using the expected value method based on historical DWP or GWP usage to the extent that a significant revenue reversal is not probable to occur. When consideration is subject to a customer termination right, the Company estimates the total transaction price using the most likely method, and defers consideration associated with the customer's termination right until it expires.

The Company evaluates whether a significant financing component exists when the timing of revenue recognition occurs in advance of invoicing. This timing difference occurs when control of the software license is transferred at a point in time, usually at the contract onset, but the customer payments occur over time. A significant financing component generally does not exist under the Company's standard contracting and billing practices. For example, the Company's typical time-based licenses have a two-year initial term with the final payment due at the end of the first year.

Allocation of the transaction price to the performance obligations in the contract

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on its standalone selling price ("SSP") in relation to the aggregate value of the stand alone selling prices of all performance obligations in the arrangement. The majority of the Company's contracts contain multiple performance obligations, such as when licenses are sold with maintenance, implementation services or training services. Additionally, cloud transition arrangements generally provide for the customer to continue using its term license while the subscription services are being implemented which requires an allocation between the term license and the subscription services. Some of the Company's performance obligations, such as maintenance, implementation services, and training services, have observable inputs that are used to determine the SSP of those distinct performance obligations. Where SSP is not directly observable, the Company determines the SSP using information that may include market conditions and other observable inputs. In the circumstances when available information to determine SSP is highly variable or uncertain, such as for our term licenses, the Company will use the residual method.

Recognition of revenue when, or as, the Company satisfies a performance obligation

The Company recognizes revenue when control of the services or products are transferred to a customer, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those services or products. The Company is principally responsible for the satisfaction of its distinct performance obligations, which are satisfied either at a point in time or over a period of time.

Performance obligations satisfied at a point in time

On-premise software licenses

On-premise term and perpetual software licenses comprise the majority of distinct performance obligations that are satisfied at a point in time. Revenue is recognized at the point in which the on-premise software licenses are made available to a customer. Consideration for on-premise software licenses is typically billed in advance on an annual basis over the license term.

Performance obligations satisfied over a period of time

Subscriptions, maintenance activities, and professional service arrangements comprise the majority of distinct performance obligations that are satisfied over a period of time.

Subscription arrangements

Revenue from subscription arrangements is recognized ratably over the subscription period using a time-based measure of progress as customers receive the benefits from their subscriptions over the contractually agreed-upon term. The Company's subscription periods are generally three to five years. Consideration from subscription arrangements is typically billed in advance on an annual basis over the contract period.

Maintenance activities

Revenue from maintenance activities associated with on-premise licenses is a stand-ready obligation, which is recognized over the contractually agreed-upon term using a time-based measure of progress as customers receive benefits from the availability of support technicians over the support period. Consideration for maintenance activities is typically billed in advance on an annual basis. The Company's maintenance activities are consistently priced as a percentage of the associated on-premise software license.

Services

Revenue from professional service arrangements is recognized over the respective service period as the underlying services are performed.

In substantially all of the Company's professional service contracts, services are separately identifiable performance obligations for which related revenue and costs are recognized according to when each respective service obligation is delivered. Substantially all professional services engagements are billed and recognized on a time and materials basis. In select situations, the Company will contract professional services on a fixed fee basis, where the Company generally recognizes services revenue over time, using an input method. The measure of progress of the professional services being provided under these fixed fee arrangements is based on hours incurred compared to estimates of the total hours to complete the performance obligation.

When professional services are sold with an on-premise license or subscription arrangement, the Company evaluates whether the performance obligations are distinct or separately identifiable, or whether they constitute a single performance obligation. In the limited cases where professional services are not considered to be distinct from the on-premise license or subscription services, the Company will recognize revenue based on the nature and term of the combined performance obligation when control of the combined performance obligation is transferred to the customer.

Contract Costs

Contract costs consists of two components, customer acquisition costs and costs to fulfill a contract.

Customer acquisition costs are capitalized only if the costs are incrementally incurred to obtain a customer contract, and mainly consist of sales commissions paid to sales personnel and their related payroll taxes. Capitalized customer acquisition costs related to software licenses, subscriptions, and support services are amortized over the anticipated period of time that such goods and services are expected to be provided to a customer, which the Company estimates to be approximately five years. The amortization of customer acquisition costs is classified as a sales and marketing expense in the consolidated statement of operations.

Costs to fulfill a contract, or fulfillment costs, mainly consist of royalties payable to third-party software providers that support both the Company's software offerings and support services. Fulfillment costs are only capitalized if they relate directly to a contract with a customer, the costs generate or enhance resources that will be used to satisfy performance obligations in the future, and the costs are expected to be recoverable. Fulfillment costs would be generally amortized over the same period of time as the customer acquisition costs. The amortization of fulfillment costs is classified as a cost of revenue.

Warranties

The Company generally provides a warranty for its software products and services to its customers for periods ranging from three to twelve months. The Company's software products are generally warranted to be free of defects in materials and workmanship under normal use and to substantially perform as described in published documentation. The Company's services are generally warranted to be performed in a professional manner and to materially conform to the specifications set forth in the related customer contract. In the event there is a failure of such warranties, the Company generally will correct the problem or provide a reasonable workaround or replacement product. If the Company cannot correct the problem or provide a workaround or replacement product, then the customer's remedy is generally limited to refund of the fees paid for the nonconforming product or services. Warranty expense has been insignificant to date.

Advertising Costs

Advertising costs are expensed as incurred and amounts incurred were not material during the years ended July 31, 2019, 2018 and 2017.

Stock-Based Compensation

The Company accounts for stock-based compensation using the fair value method, which requires the Company to measure stock-based compensation based on the grant-date fair value of the awards and recognize the compensation expense over the requisite service period. The Company recognizes compensation expense net of actual forfeitures. To date, the Company has granted or assumed stock options, restricted stock awards ("RSAs"), time-based restricted stock units ("RSUs"), performance-based restricted stock units ("PSUs"), and restricted stock units that may be earned subject to the Company's total shareholder return ranking relative to the software companies in the S&P Software and Services Select Industry Index ("S&P Index") for a specified performance period or specified performance periods, service periods, and in select cases, subject to certain performance conditions ("TSR PSUs"). RSAs, RSUs, PSUs, and TSR PSUs are collectively referred to as "Stock Awards."

The fair value of the Company's RSAs, RSUs, and PSUs is equal to the market value of the Company's common stock on the date of grant. These awards are subject to time-based vesting, which generally occurs over a period of four years. The Company recognizes compensation expense for awards that contain only service conditions on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards. The Company recognizes the compensation cost for awards that contain either performance conditions, market conditions, or both using the graded vesting method.

The fair value of the Company’s stock options and TSR PSUs are estimated at the grant date using the Black-Scholes model and Monte Carlo simulation method, respectively. The assumptions utilized under these methods require judgments and estimates. Changes in these inputs and assumptions could affect the measurement of the estimated fair value of the related compensation expense of these stock options and stock awards. Compensation expense associated with TSR PSUs will be recognized over the vesting period regardless of whether the market condition is ultimately satisfied; however, the expense will be reversed if a grantee terminates prior to satisfying the requisite service period. For TSR PSUs containing an additional performance condition, a portion of the expense may fluctuate depending on estimates of the achievement of the performance conditions. All TSR PSUs will vest at the end of a three-year period from initial grant.

Income Taxes

Income taxes are accounted for under the asset and liability method. Under this method, the Company determines deferred tax assets and liabilities on the basis of the differences between the financial statement carrying amounts and tax basis of existing assets and liabilities by using enacted tax rates in effect for the year in which the differences are expected to reverse. All deferred tax assets and liabilities are classified as non-current on the Company’s consolidated balance sheets. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance against deferred tax assets is recorded when it is more likely than not that some portion or all of such deferred tax assets will not be realized and is based on both positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations.

The effective tax rate in any given financial statement period may differ materially from the statutory rate. These differences may be caused by changes in tax regulations and resulting changes in the deferred tax valuation allowance; changes in the mix and level of income or losses; changes in the expected outcome of tax audits; permanent differences for stock-based compensation, including excess tax benefits; research and development credits; the tax rate differences between the United States and foreign countries; foreign withholding taxes; certain non-deductible expenses including executive compensation; acquisition-related expenses; and provisions under the Tax Cuts and Jobs Act (the “Tax Act”), including a provision to tax global intangible low-taxed income of foreign subsidiaries, a special deduction for foreign-derived intangible income, and a base erosion anti-abuse tax that may tax certain payments between a U.S. corporation and its foreign subsidiaries.

The Company records interest and penalties related to unrecognized tax benefits as income tax expense in its consolidated statement of operations.

Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers (Topic 606): Revenue Recognition

In May 2014, the Financial Accounting Standards Board (“FASB”) issued ASC 606, which supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, “Revenue Recognition” (“ASC 605”) as well as other industry-specific guidance. The core principle of ASC 606 is that an entity should recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services.

The Company adopted ASC 606 as of August 1, 2018 using the modified retrospective transition method and applied ASC 606 to those contracts that were not completed, as defined under ASC 606, as of August 1, 2018. The results for reporting periods beginning after August 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be presented under ASC 605. The main difference in reporting between ASC 605 and ASC 606 is that under ASC 606, the Company recognizes the revenue associated with term licenses not when payments are made or due, but when control of the software license is transferred to the customer, which occurs at or near the time a contract with a customer is executed, whereas under ASC 605, revenue associated with term software licenses was recognized over time in the earlier of the period in which the payments are due or are actually made because of extended payment terms. As a result, under ASC 606, all contractually obligated payments under a term license that the Company reasonably expects to collect would be recognized upon the transfer of control of the on-premise software licenses, which is generally when made available to a customer. Under ASC 606, costs to obtain a contract and costs to fulfill a contract are capitalized as an asset and amortized on a basis that is consistent with the pattern of transfer of performance obligations with which the asset relates. In contrast, under ASC 605, costs to obtain and costs to fulfill a contract were historically expensed as incurred.

The Company recorded a net increase to opening retained earnings of $44.3 million as of August 1, 2018 due to the cumulative impact of adopting ASC 606 using the modified retrospective method. The cumulative impact results from the differences between applying ASC 606 as opposed to applying ASC 605 to existing contracts that were not yet completed as of the date of initial adoption. For contracts completed before August 1, 2018, the Company has not retrospectively applied ASC 606 to the contracts.

Under ASC 606, contracts with customers are reflected in the consolidated balance sheets as follows:

- Accounts receivable, net represents amounts billed to customers in accordance with contract terms for which payment has not yet been received. It is presented net of the allowance for doubtful accounts as part of current assets on the consolidated balance sheets.
- Unbilled accounts receivable, net represents revenue recognized prior to the end of the reporting period for performance on a portion of the contract in advance of both billing the customer and receiving consideration. Under ASC 606, this balance represents our contract assets.
- Contract costs include deferred commissions and their related payroll taxes, royalties, and referral fees. The short-term portion is presented as prepaid and other current assets, and the long-term portion is presented as other assets.
- Deferred costs represent costs related to our professional services that have been deferred to align with revenue recognition. The short-term portion is presented as prepaid and other current assets, and the long-term portion is presented as other assets.
- Deferred revenue, net represents amounts received as consideration from the Company's customers in advance of performance on a portion of the contract as of the end of the reporting period. Under ASC 606, this balance represents our contract liabilities.

The Company may receive consideration from its customers in advance of performance on a portion of the contract and, on another portion of the contract, perform in advance of receiving consideration. Contract assets and liabilities related to rights and obligations in a contract are interdependent. Therefore, contract assets and liabilities are presented net at the contract level, as either a single contract asset or a single contract liability, on the consolidated balance sheets. As of July 31, 2019, there was no allowance for doubtful accounts associated with unbilled accounts receivable.

The following table summarizes the impact to the financial statement line items within the consolidated balance sheets as a result of the initial adoption of ASC 606 (in thousands):

	Balances reported as of July 31, 2018	**Cumulative effect adjustment due to adoption of ASC 606**	**Adjusted beginning balance as of August 1, 2018**
Unbilled accounts receivable, net	$ —	$ 28,762	$ 28,762
Contract costs, net	—	12,932	12,932
Deferred tax asset, net	90,369	(13,351)	77,018
Prepaid expenses and other assets	52,989	(239)	52,750
Other liabilities	(21,054)	7,055	(13,999)
Deferred revenue, net	(150,865)	9,180	(141,685)
Retained earnings	(124,976)	(44,339)	(169,315)

The cumulative effect adjustment on unbilled accounts receivable is driven by revenue that is recognized in advance of billings under ASC 606. The Company's on-premise software license arrangements result in revenue being recognized at the point in which the software license is transferred to customers, while agreed-upon contractual terms generally provide for billings to occur over a stated licensing period.

The cumulative effect adjustment on contract costs is driven by the requirement in ASC 606 to capitalize incremental, direct costs of either obtaining or fulfilling a contract. In prior periods, these costs were expensed as incurred under ASC 605.

The cumulative effect adjustment on deferred revenue is primarily driven by the requirement under ASC 606 to recognize license revenue upfront rather than over the contract period as described in the paragraph above related to unbilled accounts receivable.

The following table summarizes the financial statement line items within the consolidated balance sheets as of July 31, 2019 that were impacted as a result of the adoption of ASC 606 (in thousands):

	As Reported	Change	As if presented under ASC 605
Accounts receivable, net	$ 138,443	$ 2,663	$ 141,106
Unbilled accounts receivable, net	46,103	(46,103)	—
Contract costs, net[1]	30,390	(30,390)	—
Deferred tax asset, net	90,308	51,987	142,295
Prepaid expenses and other assets	50,730	(503)	50,227
Other liabilities	(35,989)	1,605	(34,384)
Deferred revenue, net	(131,831)	(156,376)	(288,207)
Retained earnings	(190,047)	177,575	(12,472)

[1] The short- and long-term portions of this balance are reported in 'Prepaid expenses and other current assets' and 'Other assets,' respectively, on the consolidated balance sheets.

The difference between the 'As Reported' amounts and the 'As if presented under ASC 605' amounts within the consolidated balance sheets is due to the same considerations described above with respect to the transition adjustments as a result of the adoption of ASC 606.

The following table summarizes the financial statement line items within the consolidated statement of operations that were impacted as a result of the adoption of ASC 606 for the year ended July 31, 2019 (in thousands):

	As Reported	Change	As if presented under ASC 605
Revenue:			
License and subscription	$ 385,322	$ (169,980)	$ 215,342
Maintenance	85,424	1,505	86,929
Services	248,768	5,769	254,537
Total revenue	719,514	(162,706)	556,808
Total cost of revenue	324,350	(7,494)	316,856
Gross profit	395,164	(155,212)	239,952
Total operating expenses	393,693	17,547	411,240
Income (loss) from operations	1,471	(172,759)	(171,288)
Other income (expense), net	10,981	352	11,333
Benefit from income taxes	(8,280)	(39,170)	(47,450)
Net income (loss)	$ 20,732	$ (133,237)	$ (112,505)
Diluted net income (loss) per share	$ 0.25	$ (1.63)	$ (1.38)

The difference between the 'As Reported' amounts and the 'As if presented under ASC 605' amounts within revenue is primarily due to term license fees for the entire committed term being recognized upfront as reported under ASC 606 rather than on a due and payable basis or ratably under ASC 605 and subscription arrangements with escalating annual fees that are recognized ratably over the committed term under ASC 606, rather than as escalating fees in each year under ASC 605, partially offset by the difference in revenue recognized associated with a fixed fee contract. Also, hosting fees associated with our subscriptions are classified as subscription revenue under ASC 606 instead of services revenue under ASC 605.

The impact to the consolidated statements of cash flows for the year ended July 31, 2019 as a result of adopting ASC 606 was not significant.

Financial Instruments (Topic 825): Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued ASU No. 2016-01, Financial Instruments (Topic 825) ("ASU 2016-01"), which impacts certain aspects of recognition, measurement, and presentation and disclosure of financial instruments. Under ASU 2016-01, unconsolidated non-equity method investments shall be measured at fair value. If such investments do not have a readily determinable fair value, an election may be made to measure them at cost after considering observable price changes for similar instruments. The Company adopted this standard beginning August 1, 2018, using the measurement alternative election, and the adoption did not result in a significant impact.

Recent Accounting Pronouncements Not Yet Adopted

Leases (ASC 842): Accounting for Leases

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) and subsequent amendments to the initial guidance: ASU No. 2017-13, ASU No. 2018-10, and ASU No. 2018-11 (collectively, “ASC 842”), which requires lessees to put most leases on their balance sheets but recognize the expenses on their income statements in a manner similar to current practice. ASC 842 states that a lessee would recognize a lease liability for the obligation to make lease payments and a right-to-use asset for the right to use the underlying asset for the lease term. The standard will be effective and the Company will adopt it beginning August 1, 2019. The Company will adopt the new standard on a modified retrospective basis and will not restate comparative periods. The Company will elect the package of practical expedients permitted under the transition guidance, which allows the Company to carryforward its historical lease classification, its assessment on whether a contract is or contains a lease, and its initial direct costs for any leases that exist prior to adoption of the new standard. The Company will also elect to combine lease and non-lease components and to keep leases with an initial term of twelve months or less off the balance sheet and recognize the associated lease payments in the consolidated statements of income on a straight-line basis over the lease term. The Company estimates approximately $90 million and $115 million will be recognized as total right-of-use assets and total lease liabilities, respectively, on the consolidated balance sheet as of August 1, 2019, and to write-off its deferred rent balance as of July 31, 2019 of approximately $20 million. Other than as disclosed, the Company does not expect the new standard to have a material impact on its consolidated financial statements.

Income Statement, Reporting Comprehensive Income (Topic 220): Reclassification of Certain Effects from Accumulated Other Comprehensive Income

In February 2018, the FASB issued ASU No. 2018-02, Income Statement, Reporting Comprehensive Income (Topic 220): Reclassification of Certain Effects from Accumulated Other Comprehensive Income (“ASU 2018-02”), which allows a reclassification of stranded tax effects from accumulated other comprehensive income to retained earnings, as a result of the Tax Act. The standard will be effective and the Company will adopt it beginning August 1, 2019. The Company has evaluated the impact of adopting the new standard and does not expect the impact to accumulated other comprehensive income and retained earnings to be significant.

Intangibles, Goodwill and Other (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract

In August 2018, the FASB issued ASU No. 2018-15, Intangibles, Goodwill and Other (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract (“ASU 2018-15”), which requires implementation costs incurred by customers in cloud computing arrangements to be deferred and recognized over the term of the arrangement, if those costs would be capitalized by the customer in a software licensing arrangement under the internal-use software guidance in ASC 350-40. ASU 2018-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019, with early adoption permitted. The Company will evaluate the impact of adopting the new standard for its 2021 fiscal year and subsequent periods.

Other recent accounting pronouncements that are or will be applicable to the Company did not, or are not expected to, have a material impact on the Company’s present or future financial statements.

2. Revenue

Disaggregation of Revenue

Revenue for the fiscal year ended July 31, 2019 by revenue type and by geography is as follows (in thousands):

	License and subscription	Maintenance	Services	Total
United States	$ 225,985	$ 53,877	$ 166,724	$ 446,586
Canada	28,658	8,842	9,469	46,969
Other Americas	6,576	4,450	7,092	18,118
Total Americas	261,219	67,169	183,285	511,673
United Kingdom	23,901	4,591	11,504	39,996
Other EMEA	52,121	7,116	37,153	96,390
Total EMEA	76,022	11,707	48,657	136,386
Total APAC	48,081	6,548	16,826	71,455
Total revenue	385,322	85,424	248,768	719,514

Revenue for the fiscal year ended July 31, 2019 by major product or service type is as follows (in thousands):

License and subscription	
Term license	$ 318,142
Subscription	65,050
Perpetual license	2,130
Maintenance	85,424
Services	248,768
Total revenue	$ 719,514

Customer Contract - Related Balance Sheet Amounts

The Company generally invoices customers in annual installments payable in advance. The difference between the timing of revenue recognition and the timing of billings results in the recognition of unbilled accounts receivable or deferred revenue in the consolidated balance sheets. Amounts related to customer contract-related arrangements are included on the consolidated balance sheets as of August 1, 2018 and July 31, 2019 as follows (in thousands):

	Beginning balance as of August 1, 2018 as adjusted	Ending balance as of July 31, 2019 as reported
Unbilled accounts receivable, net	$ 28,762	$ 46,103
Contract costs, net[1]	12,932	30,390
Deferred revenue, net	(141,685)	(131,831)

[1] The short- and long-term portions of this balance are reported in ‘Prepaid expenses and other current assets’ and ‘Other assets,’ respectively, on the consolidated balance sheets.

Unbilled accounts receivable

Unbilled accounts receivable includes those amounts that are unbilled due to agreed-upon contractual terms in which billing occurs subsequent to revenue recognition. This situation typically occurs when the Company transfers control of time-based software licenses to customers up-front, but invoices customers annually over the term of the license, which is typically two years. During the fiscal year ended July 31, 2019, the Company transferred control of a ten year time-based license that resulted in $9.7 million of unbilled accounts receivable as of July 31, 2019, representing future billings in years two through ten of the license term.

Unbilled accounts receivable is classified as either current or non-current based on the duration of remaining time between the date of the consolidated balance sheets and the anticipated due date of the underlying receivables.

Contract costs

Contract costs consist of customer acquisition costs and costs to fulfill a contract, which includes commissions and their related payroll taxes, royalties, and referral fees. Contract costs are classified as either current or non-current based on the duration of time remaining between the date of the consolidated balance sheets and the anticipated amortization date of the associated costs. The current portion of contract costs as of July 31, 2019 in the amount of $7.0 million is included in prepaid and other current assets on the Company's consolidated balance sheets. The non-current portion of contract costs as of July 31, 2019 in the amount of $23.4 million is included in other assets on the Company's consolidated balance sheets. The Company amortized $5.5 million of contract costs during the fiscal year ended July 31, 2019.

Deferred revenue

Deferred revenue consists of amounts that have been invoiced and for which the Company has the right to bill, but that have not been recognized as revenue because the related goods or services have not been transferred. Deferred revenue that will be realized during the 12-month period following the date of the consolidated balance sheets is recorded as current, and the remaining deferred revenue is recorded as non-current. During the fiscal year ended July 31, 2019, the Company recognized revenue of $112.2 million related to the Company's deferred revenue balance as of August 1, 2018.

Performance Obligations

Remaining performance obligations represent contracted revenue that has not yet been recognized, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. The Company applied the practical expedient in accordance with ASC 606 to exclude amounts related to professional services contracts that are on a time and materials basis. The aggregate amount of consideration allocated to performance obligations either not satisfied or partially satisfied was $410.3 million as of July 31, 2019. Subscription services are typically satisfied over three to five years, maintenance services are generally satisfied within one year, and professional services are typically satisfied within one year.

3. Fair Value of Financial Instruments

Available-for-sale investments within cash equivalents and investments consist of the following (in thousands):

	July 31, 2019			
	Amortized Cost	**Unrealized Gains**	**Unrealized Losses**	**Estimated Fair Value**
U.S. Government agency securities	$ 55,904	$ 4	$ (29)	$ 55,879
Commercial paper	239,333	—	—	239,333
Corporate bonds	666,087	1,612	(111)	667,588
U.S. Government bonds	130,530	94	(29)	130,595
Certificates of deposit	50,796	—	—	50,796
Money market funds	115,711	—	—	115,711
Total	$ 1,258,361	$ 1,710	$ (169)	$ 1,259,902

	July 31, 2018			
	Amortized Cost	**Unrealized Gains**	**Unrealized Losses**	**Estimated Fair Value**
U.S. Government agency securities	$ 9,000	$ —	$ (27)	$ 8,973
Commercial paper	471,966	4	(141)	471,829
Corporate bonds	441,540	76	(764)	440,852
U.S. Government bonds	89,986	—	(55)	89,931
Certificates of deposit	81,985	53	(8)	82,030
Money market funds	90,766	—	—	90,766
Total	$ 1,185,243	$ 133	$ (995)	$ 1,184,381

The following table shows the gross unrealized losses and fair value of the Company's investments with unrealized losses, aggregated by investment category and the length of time that individual securities have been in an unrealized loss position (in thousands):

	July 31, 2019					
	Less Than 12 Months		12 Months or Greater		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
U.S. Government agency securities	$ 40,707	$ (29)	$ —	$ —	$ 40,707	$ (29)
Corporate bonds	122,337	(105)	9,345	(6)	131,682	(111)
U.S. Government bonds	53,876	(29)	—	—	53,876	(29)
Total	$ 216,920	$ (163)	$ 9,345	$ (6)	$ 226,265	$ (169)

As of July 31, 2019, the Company had 68 investments in a gross unrealized loss position. The unrealized losses on its available-for-sale securities were primarily a result of unfavorable changes in interest rates subsequent to the initial purchase of these securities. The Company neither intends to sell, nor does it believe it will need to sell, these securities before recovering the associated unrealized losses. The Company does not consider any portion of the unrealized losses at July 31, 2019 to be other-than-temporarily impaired, nor are any unrealized losses considered to be credit losses. The Company has recorded the securities at fair value in its consolidated balance sheets, with unrealized gains and losses reported as a component of accumulated other comprehensive (income) loss. The amount of realized gains and losses reclassified into earnings are based on the specific identification of the securities sold. The realized gains and losses from sales of securities in the periods presented were not material.

The following table summarizes the contractual maturities of the Company's available-for-sale investments measured at fair value (in thousands):

	July 31, 2019		
	Less Than 12 Months	12 to 36 Months	Total
U.S. Government agency securities	$ 39,166	$ 16,713	$ 55,879
Commercial paper	239,333	—	239,333
Corporate bonds	481,568	186,020	667,588
U.S. Government bonds	123,600	6,995	130,595
Certificates of deposit	47,000	3,796	50,796
Money market funds	115,711	—	115,711
Total	$ 1,046,378	$ 213,524	$ 1,259,902

Fair Value Measurement

Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs.

The Company applies the three-level valuation hierarchy when measuring certain assets and liabilities:

Level 1—Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2—Inputs other than quoted prices included within Level 1 that are observable, unadjusted quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data; and

Level 3—Unobservable inputs that are supported by little or no market activity, which require the Company to develop its own assumptions. The Company did not have any Level 3 financial assets or liabilities as of July 31, 2019 or 2018.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The carrying value of the Company's accounts receivable, accounts payable and accrued liabilities approximates their fair value due to the short-term nature of these instruments.

Available-for-sale investments

The following tables summarize the Company’s available-for-sale investments measured at fair value on a recurring basis, by level within the fair value hierarchy:

	July 31, 2019			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Commercial paper	$ —	$ 56,132	$ —	$ 56,132
Corporate bonds	—	4,398	—	4,398
Money market funds	115,712	—	—	115,712
Total cash equivalents	115,712	60,530	—	176,242
Short-term investments:				
U.S. Government agency securities	—	39,166	—	39,166
Commercial paper	—	183,201	—	183,201
Corporate bonds	—	477,169	—	477,169
U.S. Government bonds	—	123,600	—	123,600
Certificates of deposit	—	47,000	—	47,000
Total short-term investments	—	870,136	—	870,136
Long-term investments:				
U.S. Government agency securities	—	16,713	—	16,713
Corporate bonds	—	186,021	—	186,021
U.S. Government bonds	—	6,994	—	6,994
Certificates of deposit	—	3,796	—	3,796
Total long-term investments	—	213,524	—	213,524
Total	$ 115,712	$ 1,144,190	$ —	$ 1,259,902

	July 31, 2018			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents:				
Commercial paper	$ —	$ 269,654	$ —	$ 269,654
Corporate bonds	—	3,001	—	3,001
Money market funds	90,766	—	—	90,766
Total cash equivalents	90,766	272,655	—	$ 363,421
Short-term investments:				
U.S. Government agency securities	—	1,999	—	1,999
Commercial paper	—	195,376	—	195,376
Corporate bonds	—	281,696	—	281,696
U. S. Government bonds	—	89,931	—	89,931
Certificates of deposit	—	61,006	—	61,006
Total short-term investments	—	630,008	—	630,008
Long-term investments:				
U.S. Government agency securities	—	6,974	—	6,974
Commercial paper	—	6,799	—	6,799
Corporate bonds	—	151,291	—	151,291
U.S. Government bonds	—	4,864	—	4,864
Certificates of deposit	—	21,024	—	21,024
Total long-term investments	—	190,952	—	190,952
Total	$ 90,766	$ 1,093,615	$ —	$ 1,184,381

Convertible Senior Notes

The fair value of the Convertible Senior Notes was $454.1 million and $398.7 million at July 31, 2019 and 2018, respectively. The Company estimates the fair value of the Convertible Senior Notes using commonly accepted valuation methodologies and market-based risk measurements that are directly observable, such as unadjusted quoted prices (Level 2). The Company carries the Convertible Senior Notes at initial fair value less debt discount and issuance costs on its consolidated balance sheets. For further information on the Convertible Senior Notes, see Note 6.

4. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	July 31, 2019	July 31, 2018
Prepaid expenses	$ 11,926	$ 14,704
Contract costs	7,015	—
Deferred costs	7,030	9,074
Deposits and other receivables	9,595	6,686
Prepaid expenses and other current assets	$ 35,566	$ 30,464

Property and Equipment, net

Property and equipment consist of the following (in thousands):

	July 31, 2019	July 31, 2018
Computer hardware	$ 17,799	$ 20,614
Software	6,741	4,664
Capitalized software development costs	7,374	3,978
Equipment and machinery	10,455	4,265
Furniture and fixtures	8,137	4,217
Leasehold improvements	48,191	10,751
Total property and equipment	98,697	48,489
Less accumulated depreciation	(32,888)	(29,894)
Property and equipment, net	$ 65,809	$ 18,595

As of July 31, 2019 and 2018, no property and equipment was pledged as collateral. Depreciation expense, excluding the amortization of software development costs, was $9.7 million, $7.7 million, and $6.6 million for the fiscal years ended July 31, 2019, 2018, and 2017, respectively.

The Company capitalizes software development costs for technology applications that the Company will offer solely as cloud-based subscriptions, which is primarily comprised of compensation for employees who are directly associated with the software development projects. The Company begins amortizing the capitalized software development costs once the technology applications are available for general release over the estimated lives of the applications, ranging from three to five years. The Company recognized approximately $1.0 million and $0.4 million in amortization expense in cost of revenue - license and subscription on the accompanying consolidated statements of operations during the fiscal years ended July 31, 2019 and 2018, respectively. There was no such amortization during the fiscal year ended July 31, 2017.

Other Assets

Other assets consist of the following (in thousands):

	July 31, 2019	July 31, 2018
Prepaid expenses	$ 2,640	$ 2,476
Contract costs	23,375	—
Deferred costs	8,867	9,377
Strategic investments	10,672	10,672
Other assets	$ 45,554	$ 22,525

The Company's other assets includes a strategic equity investment in a privately-held company. The strategic investment is a non-marketable equity security, in which the Company does not have a controlling interest or the ability to exert significant influence. This investment does not have a readily determinable market value. The Company records this strategic investment at cost less impairment and adjusts cost for subsequent observable price changes. During the years ended July 31, 2019 and 2018, there were no changes in the investment's carrying value of $10.7 million.

Goodwill and Intangible Assets

Changes in the carrying amount of goodwill for the periods presented are as follows (in thousands):

Goodwill - July 31, 2017	$	141,851
Cyence Acquisition		198,929
Changes in carrying value		97
Goodwill - July 31, 2018	$	340,877
Changes in carrying value		—
Goodwill - July 31, 2019	$	340,877

The Company's intangible assets are amortized over their estimated useful lives. Intangible assets consist of the following (in thousands):

		July 31, 2019			July 31, 2018		
	Remaining Weighted-Average Useful Life (in years)	Cost	Accumulated Amortization	Net Book Value	Cost	Accumulated Amortization	Net Book Value
Acquired technology	2.4	$ 93,600	$ 53,970	39,630	$ 93,600	$ 34,189	$ 59,411
Customer contracts and related relationships	4.6	35,700	12,566	23,134	35,700	6,633	29,067
Partner relationships	5.7	200	74	126	200	52	148
Trademarks	5.3	2,500	625	1,875	2,500	268	2,232
Order backlog	1.3	8,700	6,923	1,777	8,700	3,904	4,796
Total	3.2	$ 140,700	$ 74,158	$ 66,542	$ 140,700	$ 45,046	$ 95,654

Amortization expense was $29.1 million, $27.5 million, and $12.1 million during the years ended July 31, 2019, 2018, and 2017, respectively. The future amortization expense for existing intangible assets as of July 31, 2019, based on their current useful lives, is as follows (in thousands):

Fiscal year ending July 31,		
2020	$	26,835
2021		19,965
2022		11,143
2023		3,799
2024		2,379
Thereafter		2,421
Total future amortization expense	$	66,542

Accounts Receivables

Accounts receivable, net consists of the following (in thousands):

	July 31, 2019	July 31, 2018
Accounts receivable	$ 139,884	$ 125,911
Allowance for doubtful accounts and revenue reserves	(1,441)	(1,062)
Accounts receivable, net	$ 138,443	$ 124,849

Allowance for Doubtful Accounts and Revenue Reserves

Allowance for doubtful accounts and revenue reserves consists of the following (in thousands):

Allowances - July 31, 2017	$	—
Charges to bad debt and revenue reserves		1,062
Write-offs, net		—
Allowances - July 31, 2018	$	1,062
Charges to bad debt and revenue reserves		670
Write-offs, net		(291)
Allowances - July 31, 2019		1,441

Accrued Employee Compensation

Accrued employee compensation consists of the following (in thousands):

	July 31, 2019	July 31, 2018
Bonus	$ 37,628	$ 31,273
Commission	10,317	7,287
Vacation	14,511	13,132
Salaries, payroll taxes and benefits	10,909	8,443
Total	$ 73,365	$ 60,135

5. Net Income (Loss) per Share

The Company calculates basic earnings per share by dividing the net income (loss) by the weighted average number of shares of common stock outstanding for the period. The diluted earnings per share is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period using the treasury stock method. For purposes of this calculation, options to purchase common stock, stock awards, and the Convertible Senior Notes are considered to be common stock equivalents.

Since the Company has the intent and ability to settle the principal amount of the Convertible Senior Notes in cash and any excess in shares of the Company's common stock, the Company uses the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The conversion spread will have a dilutive impact on net income (loss) per share of common stock when the average market price of the Company's common stock for a given period exceeds the conversion price of $113.75 per share for the Convertible Senior Notes. During the fiscal years ended July 31, 2019 and 2018, the Company's weighted average common stock price was below the conversion price of the Convertible Senior Notes.

The following table sets forth the computation of the Company's basic and diluted net income per share for the years ended July 31, 2019, 2018 and 2017 (in thousands, except share and per share amounts):

	Fiscal years ended July 31,		
	2019	2018	2017
Numerator:			
Net income (loss)	$ 20,732	$ (26,743)	$ 18,072
Net income (loss) per share:			
Basic	$ 0.25	$ (0.34)	$ 0.24
Diluted	$ 0.25	$ (0.34)	$ 0.24
Denominator:			
Weighted average shares used in computing net income (loss) per share:			
Basic	81,447,998	77,709,592	73,994,577
Weighted average effect of diluted stock options	229,035	—	544,520
Weighted average effect of diluted stock awards	1,004,181	—	789,246
Diluted	82,681,214	77,709,592	75,328,343

The following weighted shares outstanding of potential common stock were excluded from the computation of diluted net income (loss) per share for the periods presented because including them would have been antidilutive:

	Fiscal years ended July 31,		
	2019	2018	2017
Stock options to purchase common stock	—	597,476	24,128
Stock awards	44,196	3,161,157	88,582

6. Convertible Senior Notes

In March 2018, the Company offered and sold $400.0 million aggregate principal amount of its 1.25% Convertible Senior Notes due 2025. The Convertible Senior Notes were issued in accordance with the Indenture, dated as of March 13, 2018, between the Company and U.S. Bank National Association, as trustee (the "Trustee") (the "Base Indenture"), as amended and supplemented by the First Supplemental Indenture, dated as of March 13, 2018, between the Company and the Trustee (together with the Base Indenture, the "Indenture"). The net proceeds from the issuance of the Convertible Senior Notes were $387.2 million, after deducting issuance costs.

The Convertible Senior Notes are unsecured obligations of the Company, and interest is payable semi-annually in arrears at a rate of 1.25% per year, on March 15th and September 15th of each year, beginning on September 15, 2018. The Convertible Senior Notes will mature on March 15, 2025 unless repurchased, redeemed, or converted prior to such date. Prior to the close of business on the business day immediately preceding October 15, 2024, the Convertible Senior Notes are convertible at the option of holders during certain periods, upon satisfaction of certain conditions. On or after October 15, 2024, the Convertible Senior Notes are convertible at any time until the close of business on the second scheduled trading day immediately preceding the maturity date. The Convertible Senior Notes will have an initial conversion rate of 8.7912 shares of common stock per $1,000 principal (equivalent to an initial conversion price of approximately $113.75 per share of its common stock). The conversion rate is subject to customary adjustments upon the occurrence of certain events but will not be adjusted for any accrued and unpaid interest. Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of its common stock or a combination of cash and shares of its common stock, at its election.

The Company may redeem the Convertible Senior Notes, at its option, on or after March 20, 2022, at a redemption price equal to 100% of the principal amount thereof, plus accrued and unpaid interest if the last reported sale price of the Company's common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive), including at least one of the three trading days immediately preceding the date on which the Company provides notice of redemption, during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption. No sinking fund is provided for the Convertible Senior Notes. Upon the occurrence of a fundamental change (as defined in the Indenture) prior to the maturity date, holders may require the Company to repurchase all or a portion of the Convertible Senior Notes for cash at a price equal to 100% of the principal amount of the notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Convertible Senior Notes rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the Convertible Senior Notes, and equal in right of payment to any of its indebtedness that is not so subordinated. The Convertible Senior Notes are effectively junior in right of payment to any of the Company's secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) and any preferred equity of its current or future subsidiaries.

In accounting for the issuance of the Convertible Senior Notes, the Company separated the Convertible Senior Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the par value of the Convertible Senior Notes as a whole. The excess of the principal amount of the Convertible Senior Notes over its carrying amount is amortized to interest expense using the effective interest method over the term of the Convertible Senior Notes. The equity component of the Convertible Senior Notes is recorded as the difference between the initial proceeds less the fair value of the liability component and will not be remeasured as long as it continues to meet the requirements for equity classification. The equity component is net of issuance costs and recorded as additional paid-in capital in stockholders' equity.

The net carrying value of the liability component, unamortized debt discount and issuance costs of the Convertible Senior Notes was as follows (in thousands):

	July 31, 2019	July 31, 2018
Principal	$ 400,000	$ 400,000
Less: unamortized debt discount and issuance costs		
Unamortized debt discount	74,213	85,343
Debt issuance cost	8,465	9,529
Net carrying amount	$ 317,322	$ 305,128

The following table sets forth the interest expense recognized related to the Convertible Senior Notes (in thousands):

	Fiscal years ended July 31,	
	2019	2018
Contractual interest expense	$ 5,000	$ 1,903
Amortization of debt discount	11,131	4,134
Amortization of debt issuance costs	1,063	378
Total	$ 17,194	$ 6,415
Effective interest rate of the liability component	5.53%	5.53%

Capped Call

The Company paid $37.2 million to purchase capped calls with certain financial institutions pursuant to capped call confirmations (the "Capped Calls"). The Capped Calls have an initial strike price of $113.75 per share, subject to certain adjustments, which corresponds to the initial conversion price of the Convertible Senior Notes. The Capped Calls have initial cap prices of $153.13 per share, subject to certain adjustments. The Capped Calls cover, subject to anti-dilution adjustments, 3.5 million shares of common stock. By entering into the Capped Calls, the Company expects to reduce the potential dilution to its common stock (or, in the event the conversion is settled in cash, to reduce its cash payment obligation) in the event that at the time of conversion its stock price exceeds the conversion price under the Convertible Senior Notes. The Capped Calls are subject to either adjustment or termination upon the occurrence of specified extraordinary events affecting the Company, including a merger event, tender offer, and a nationalization, insolvency, or delisting involving the Company. Additionally, the Capped Calls are subject to certain specified additional disruption events that may give rise to a termination of the Capped Calls, including change in law, insolvency filing, and hedging disruptions. The Capped Calls were recorded as a reduction of the Company's additional paid-in capital in the accompanying consolidated balance sheets.

7. Commitments and Contingencies

The Company's contractual obligations and commitments as of July 31, 2019 are as follows (in thousands):

	Lease Obligations [1]	Royalty Obligations [2]	Purchase Commitments [3]	Long-Term Debt [4]	Total
Fiscal Year Ending July 31,					
2020	$ 10,707	$ 2,018	$ 27,149	$ 5,000	$ 44,874
2021	15,571	918	6,943	5,000	28,432
2022	14,450	701	3,500	5,000	23,651
2023	13,344	560	227	5,000	19,131
2024	13,174	—	—	5,000	18,174
Thereafter	74,508	—	—	405,000	479,508
Total	$ 141,754	$ 4,197	$ 37,819	$ 430,000	$ 613,770

(1) Operating lease agreements primarily represent our obligations to make payments under our non-cancellable lease agreements for our corporate headquarters and worldwide offices through 2028.

(2) Royalty obligations primarily represent our obligations under our non-cancellable agreements related to software used in certain revenue-generating agreements.

(3) Purchase commitments consist of agreements to purchase services, entered into in the ordinary course of business. These represent commitments for which a penalty could be imposed if the agreement was canceled for any reason other than an event of default as described by the agreement.

(4) Long-term debt consists of principal and interest payments on the Company's Convertible Senior Notes. The $400 million in principal will be due in March 2025.

Leases

The Company leases certain facilities and equipment under operating leases. Lease expense for all worldwide facilities and equipment, which is being recognized on a straight-line basis over the terms of the various leases, was $15.5 million, $8.7 million, and $6.8 million during the years ended July 31, 2019, 2018, and 2017, respectively.

In December 2017, the Company entered into a new lease agreement for its new headquarter facility in San Mateo, California and began recognizing rent expense in December 2018 when access and control of the premises was provided. The contractual lease term expires in December 2029. Total payments committed under the lease are $126.4 million. In connection with this lease agreement, the Company also entered into an irrevocable stand-by letter of credit to guarantee the $1.8 million security deposit.

Legal Proceedings

From time to time, the Company is involved in various legal proceedings and receives claims, arising from the normal course of business activities. The Company has determined that no provision for liability nor disclosure is required related to any claim against the Company because: (a) there is not a reasonable possibility that a loss exceeding amounts already recognized (if any) may be incurred with respect to such claim; (b) a reasonably possible loss or range of loss cannot be estimated; or (c) such estimate is immaterial. Accordingly, the Company has not recorded any accrual for claims as of July 31, 2019 and 2018. The Company expenses legal fees in the period in which they are incurred.

Indemnification

The Company sells software licenses and services to its customers under contracts ("Software Licenses"). Each Software License contains the terms of the contractual arrangement with the customer and generally includes certain provisions for defending the customer against any claims that the Company's software infringes upon a patent, copyright, trademark, or other proprietary right of a third party. Software Licenses also indemnify the customer against losses, expenses, and liabilities from damages that may be assessed against the customer in the event the Company's software is found to infringe upon such third-party rights.

The Company has not had to reimburse any of its customers for losses related to indemnification provisions and no material claims against the Company were outstanding as of July 31, 2019 and 2018. For several reasons, including the lack of prior indemnification claims and the lack of a monetary liability limit for certain infringement cases under various Software Licenses, the Company cannot estimate the amount of potential future payments, if any, related to indemnification provisions.

The Company has also agreed to indemnify its directors and executive officers for costs associated with any fees, expenses, judgments, fines, and settlement amounts incurred by any of these persons in any action or proceeding to which any of these persons is, or is threatened to be, made a party by reason of the person's service as a director or officer, including any action by the Company, arising out of that person's services as the Company's director or officer or that person's services provided to any other company or enterprise at the Company's request. The Company maintains director and officer insurance coverage that may enable the Company to recover a portion of any future amounts paid.

8. Stock-Based Compensation Expense and Shareholders' Equity

Equity Incentive Plans

On September 14, 2011, the Company's Board of Directors adopted the 2011 Stock Plan ("2011 Plan") for the purpose of granting equity-based incentive awards as compensation tools to motivate the Company's workforce. The Company had initially reserved 7,500,000 shares of its common stock for the issuance of awards under the 2011 Plan. The 2011 Plan provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2013, by up to 5% of the outstanding number of shares of the Company's common stock on the immediately preceding December 31. This number is subject to adjustment in the event of a stock split, stock dividend or other defined changes in the Company's capitalization.

In addition, the Company has equity awards outstanding from its other equity incentive plans, the 2006 Stock Plan, the 2009 Stock Plan and the 2010 Restricted Stock Unit Plan, which were discontinued for the purposes of making new grants upon the adoption of the 2011 Plan.

Stock-Based Compensation Expense

Stock-based compensation expense related to options and Stock Awards is included in the Company's consolidated statements of operations as follows (in thousands):

	Fiscal years ended July 31,		
	2019	2018	2017
Stock-based compensation expense:			
Total stock-based compensation	$ 91,570	$ 89,176	$ 72,695
Net impact of deferred stock-based compensation	(54)	438	(901)
Total stock-based compensation expense	$ 91,516	$ 89,614	$ 71,794
Stock-based compensation expense was charged to the following categories:			
Cost of license and subscription revenue	$ 3,011	$ 1,002	$ 373
Cost of maintenance revenue	1,820	1,886	1,694
Cost of services revenue	22,781	21,856	18,622
Research and development	23,421	25,440	18,123
Sales and marketing	19,246	18,387	16,663
General and administrative	21,237	21,043	16,319
Total stock-based compensation expense	91,516	89,614	71,794
Tax benefit from stock-based compensation	29,159	24,481	23,014
Total stock-based compensation expense, net of tax effect	$ 62,357	$ 65,133	$ 48,780

Total unrecognized stock-based compensation expense for the Company's options and Stock Awards was as follows:

	As of July 31, 2019	
	Unrecognized Expense (in thousands)	Weighted Average Expected Recognition Period (in years)
Stock Options	$ 2,319	1.5
Stock Awards	158,668	2.2
Total unrecognized stock-based compensation expense	$ 160,987	

Stock Awards

A summary of the Company's Stock Awards activity under the Company's equity incentive plans is as follows:

	Stock Awards Outstanding		
	Number of Stock Awards	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value[1] (in thousands)
Balance as of July 31, 2016	2,727,724	$ 50.08	$ 167,673
Granted	1,542,235	$ 61.22	
Released	(1,372,770)	$ 49.38	$ 81,427
Canceled	(263,104)	$ 53.53	
Balance as of July 31, 2017	2,634,085	$ 56.62	$ 190,076
Granted	1,814,084	$ 79.65	
Released	(1,260,758)	$ 56.92	$ 103,957
Canceled	(255,256)	$ 63.66	
Balance as of July 31, 2018	2,932,155	$ 69.43	$ 252,752
Granted	1,238,700	$ 100.01	
Released	(1,398,676)	$ 69.20	$ 133,050
Canceled	(387,506)	$ 75.16	
Balance as of July 31, 2019	2,384,673	$ 85.20	$ 243,427
Expected to vest as of July 31, 2019	2,384,673	$ 85.20	$ 243,427

(1) Aggregate intrinsic value at each fiscal year end represents the total market value of Stock Awards at the Company's closing stock price of $102.08, $86.20, and $72.16 on July 31, 2019, 2018, and 2017, respectively. Aggregate intrinsic value for released Stock Awards represents the total market value of released Stock Awards at date of release.

RSAs are issued and outstanding upon grant; however, vesting is based on continued employment. The weighted average grant date fair value is based on the market value of our common stock on the date of grant.

Certain executives and employees of the Company received PSUs and TSR PSUs in addition to RSUs. The PSUs included performance-based conditions and vest over a four-year period. The TSR PSUs are subject to total shareholder return rankings relative to market-based conditions (software companies in the S&P Index) for a specified performance period or specified performance periods, and vest at the end of three years. In select cases, certain TSR PSUs are also subject to performance-based conditions.

The Company recognized stock-based compensation of $13.3 million, $19.1 million, and $9.4 million related to these performance-based and market-based stock awards in fiscal years 2019, 2018, and 2017, respectively.

Stock Options

Stock option activity under the Company's equity incentive plans is as follows:

	Number of Stock Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value[1] (in thousands)
Balance as of July 31, 2016	1,158,572	$ 15.45	4.0	$ 53,316
Granted	—	$ —		
Exercised	(594,936)	$ 9.35		$ 30,636
Canceled	(8,000)	$ 2.74		
Balance as of July 31, 2017	555,636	$ 22.17	4.0	$ 27,777
Granted[2]	137,057	$ 10.23		
Exercised	(150,924)	$ 13.32		$ 10,710
Canceled	(4,705)	$ 40.05		
Balance as of July 31, 2018	537,064	$ 21.45	4.3	$ 34,774
Granted	—	$ —		
Exercised	(301,901)	$ 13.11		$ 24,731
Canceled	(18,436)	$ 9.43		
Balance as of July 31, 2019	216,727	$ 34.10	5.2	$ 14,733
Vested and expected to vest as of July 31, 2019	216,727	$ 34.10	5.2	$ 14,733
Exercisable as of July 31, 2019	181,783	$ 38.57	4.8	$ 11,546

(1) Aggregate intrinsic value at each fiscal year end represents the difference between the Company's closing stock price of $102.08, $86.20, and $72.16 on July 31, 2019, 2018, and 2017, respectively, and the exercise price of the option. Aggregate intrinsic value for exercised options represents the difference between the Company's stock price at date of exercise and the exercise price.

(2) Represents options assumed through the Cyence acquisition on November 1, 2017.

Valuation of Awards

TSR PSUs

The fair values of the TSR PSUs were estimated at the grant date using a Monte Carlo simulation model which included the following assumptions:

	Fiscal years ended July 31,		
	2019	2018	2017
Expected term (in years)	2.88	2.88	2.66 - 2.88
Risk-free interest rate	2.79%	1.44%	0.89% - 1.34%
Expected volatility of the Company	27.2%	28.0%	30.2% - 31.5%
Average expected volatility of the peer companies in the S&P Index	33.0%	34.7%	36.9% - 37.0%
Expected dividend yield	—%	—%	—%

The number of TSR PSUs that may ultimately vest will vary based on the relative performance of the Company’s total shareholder return rankings relative to the software companies in the S&P Index for a specified performance period or periods. The Monte Carlo methodology incorporates into the valuation all possible outcomes, including that the Company’s relative performance may result in no shares vesting. As a result, stock-based compensation expense is recognized regardless of the ultimate achievement of the plan’s performance metrics. The expense will be reversed only in the event that a grantee is terminated prior to satisfying the requisite service period.

For a subset of TSR PSUs, the number of shares that may ultimately vest will vary based on the achievement of certain Company specific financial performance metrics in addition to the Company’s total shareholder return condition noted above. As a result, the expense recognized will fluctuate based on the Company’s estimated financial performance relative to the target financial performance metrics.

Stock Options

The per share fair value of each stock option was determined using the Black-Scholes option-pricing model with the following assumptions:

	Fiscal years ended July 31,		
	2019	2018	2017
Expected life (in years)	*	1.27	*
Risk-free interest rate	*	1.48%	*
Expected volatility	*	24.12%	*
Expected dividend yield	*	—%	*
Weighted average fair value of options granted	*	$67.90	*

* There were no options granted during the fiscal years ended July 31, 2017 and 2019.

Common Stock Reserved for Issuance

As of July 31, 2019 and 2018, the Company was authorized to issue 500,000,000 shares of common stock with a par value of $0.0001 per share and, of these, 82,140,883 and 80,611,698 shares of common stock were issued and outstanding, respectively. Per the terms of the Company’s 2011 Stock Plan, on January first of each year, an additional number of shares equal to up to 5% of the number of shares of common stock issued and outstanding on the preceding December 31st is added to the Company’s 2011 Stock Plan reserve. As of July 31, 2019 and 2018, the Company had reserved shares of common stock for future issuance as follows:

	July 31, 2019	July 31, 2018
Exercise of stock options to purchase common stock	216,727	537,064
Vesting of restricted stock awards	2,384,673	2,932,155
Shares available for grant under stock plans	24,776,361	21,592,494
Total common stock reserved for issuance	27,377,761	25,061,713

In March 2018, the Company completed a public offering of 2,628,571 shares of its common stock. The public offering price of the shares sold in the offering was $87.50 per share. No shares were sold by the Company’s stockholders in this public offering.

9. Income Taxes

On December 22, 2017, the Tax Act was enacted into law, which made changes to U.S. tax law, including, but not limited to: (1) reducing the U.S. Federal corporate income tax rate from 35% to 21%; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. Federal corporate income taxes on dividends from foreign subsidiaries; (4) capitalizing R&D expenses which are amortized over five to 15 years; and (5) other changes to how foreign and domestic earnings are taxed.

The Tax Act includes a provision to tax global intangible low-taxed income (“GILTI”) of foreign subsidiaries and a base erosion anti-abuse tax (“BEAT”) measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries. These provisions of the Tax Act were effective for the Company beginning August 1, 2018 and had no impact on the tax benefit for the year ended July 31, 2019. Under U.S. GAAP, the Company can make an accounting policy election to either treat taxes due on the GILTI inclusion as a current period expense or factor such amounts into its measurement of deferred taxes. The Company has elected the current period expense method. The Company has finalized its assessment of the transitional impacts of the Tax Act.

In December 2018, the IRS issued proposed regulations related to the BEAT tax, which the Company is in the process of evaluating. If the proposed BEAT regulations are finalized in their current form, the impact may be material to the tax provision in the quarter of enactment.

The U.S. Treasury Department, the Internal Revenue Service ("IRS"), and other standard-setting bodies will continue to interpret or issue guidance on how provisions of the Tax Act will be applied or otherwise administered. The Company continues to obtain, analyze, and interpret guidance as it is issued and will revise its estimates as additional information becomes available. Any legislative changes, including any other new or proposed U.S. Department of the Treasury regulations that have yet to be issued, may result in income tax adjustments, which could be material to our provision for income taxes and effective tax rate in the period any such changes are enacted.

The Company's income (loss) before provision for (benefit from) income taxes for the years ended July 31, 2019, 2018 and 2017 is as follows (in thousands):

	Fiscal years ended July 31,		
	2019	2018	2017
Domestic	$ (1,778)	$ (13,501)	$ 21,723
International	14,230	5,225	6,803
Income (loss) before provision for (benefit from) income taxes	$ 12,452	$ (8,276)	$ 28,526

The provision for income taxes consisted of the following (in thousands):

	Fiscal years ended July 31,		
	2019	2018	2017
Current:			
U.S. Federal	$ 3,297	$ 2,047	$ 6,339
State	48	219	1,829
Foreign	1,859	2,203	3,595
Total current	5,204	4,469	11,763
Deferred:			
U.S. Federal	(13,683)	15,766	(686)
State	(989)	(1,460)	(429)
Foreign	1,188	(308)	(194)
Total deferred	(13,484)	13,998	(1,309)
Total provision for (benefit from) income taxes	$ (8,280)	$ 18,467	$ 10,454

Differences between income taxes calculated using the statutory federal income tax rate of 21% in the fiscal year ended July 31, 2019, 26.9% in the fiscal year ended July 31, 2018, and 35% in the fiscal year ended July 31, 2017 and the provision for income taxes are as follows (in thousands):

	Fiscal years ended July 31,		
	2019	2018	2017
Statutory federal income tax	$ 2,617	$ (2,224)	$ 9,984
State taxes, net of federal benefit	(939)	(993)	806
Share-based compensation	(8,013)	(8,715)	2,517
Non-deductible officers' compensation	3,938	3,230	959
Foreign income taxed at different rates	203	1,022	(819)
Research tax credits	(6,943)	(5,822)	(2,377)
Re-measurement of U.S. deferred taxes	—	36,125	—
Non-deductible acquisition costs	—	1,270	270
Domestic production activity deduction	—	—	(1,370)
Permanent differences and others	918	666	484
Change in valuation allowance	(61)	(6,092)	—
Total provision for (benefit from) income taxes	$ (8,280)	$ 18,467	$ 10,454

The tax effects of temporary differences that gave rise to significant portions of deferred tax assets and liabilities are as follows (in thousands):

	As of July 31,	
	2019	2018
Accruals and reserves	$ 7,870	$ 12,129
Stock-based compensation	6,353	7,658
Deferred revenue	2,316	4,023
Property and equipment	—	1,268
Net operating loss carryforwards	55,881	56,668
Tax credits	74,819	60,450
Total deferred tax assets	147,239	142,196
Less valuation allowance	31,421	28,541
Net deferred tax assets	115,818	113,655
Less deferred tax liabilities:		
Intangible assets	7,413	11,461
Convertible debt	10,274	11,567
Property and equipment	1,435	—
Unremitted foreign earnings	302	258
Capitalized commissions	6,086	—
Total deferred tax liabilities	25,510	23,286
Deferred tax assets, net	90,308	90,369
Less foreign deferred revenue	—	69
Less foreign capitalized commissions	906	—
Total net deferred tax assets	89,402	90,300

The Company considered both positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies, historic book profit/loss, prior taxable income/loss, and results of future operations, and determined that a valuation allowance was not required for a significant portion of its deferred tax assets. A valuation allowance of $31.4 million and $28.5 million remained as of July 31, 2019 and 2018, respectively. The increase of $2.9 million in the valuation allowance in the current fiscal year relates primarily to net operating losses and income tax credits incurred in certain tax jurisdictions for which no tax benefit was recognized.

As of July 31, 2019, the Company had U.S. Federal, California, and other states net operating loss ("NOL") carryforwards of $217.0 million, $63.8 million, and $103.4 million, respectively. The U.S. Federal and California NOL carryforwards will start to expire in 2027 and 2019, respectively.

As of July 31, 2019, the Company had research and development tax credits ("R&D credit") carryforwards of the following (in thousands):

U.S. Federal	$	40,839
California		33,818
Total R&D credit carryforwards	$	74,657

The U.S. Federal R&D credits will start to expire in 2023 and the California R&D tax credits do not expire.

Federal and California laws impose restrictions on the utilization of net operating loss carryforwards and R&D credit carryforwards in the event of a change in ownership of the Company, as defined by Internal Revenue Code 382 and 383. The Company experienced an ownership change in the past that does not materially impact the availability of its net operating losses and tax credits. However, should there be an ownership change in the future, the Company's ability to utilize existing carryforwards could be substantially restricted.

The Company provides U.S. income taxes on the earnings of foreign subsidiaries, unless the subsidiaries' earnings are considered indefinitely reinvested outside the United States. As of July 31, 2019, the Company has recorded a provisional estimate for U.S. income taxes on undistributed earnings from foreign subsidiaries of $0.3 million. The Company may repatriate foreign earnings that have been taxed in the United States in the future to the extent that the repatriation is not restricted by local laws or there are no substantial incremental costs associated with such repatriation.

Unrecognized Tax Benefits

Activity related to unrecognized tax benefits is as follows (in thousands):

	Fiscal years ended July 31,					
	2019		2018		2017	
Unrecognized tax benefit - beginning of period	$	10,321	$	9,346	$	7,687
Gross increases - prior period tax positions		98		729		712
Gross decreases - prior period tax positions		(88)		(878)		(691)
Gross increases - current period tax positions		1,302		1,124		1,638
Unrecognized tax benefit - end of period	$	11,633	$	10,321	$	9,346

During the year ended July 31, 2019, the Company's unrecognized tax benefits increased by $1.3 million, primarily associated with the Company's U.S. Federal and California R&D credits. As of July 31, 2019, the Company had unrecognized tax benefits of $6.2 million that, if recognized, would affect the Company's effective tax rate. An estimate of the range of possible change within the next 12 months cannot be made at this time.

The Company, or one of its subsidiaries, files income taxes in the U.S. Federal jurisdiction and various state and foreign jurisdictions. If the Company utilizes net operating losses or tax credits in future years, the U.S. Federal, state and local, and non-U.S. tax authorities may examine the tax returns covering the period in which the net operating losses and tax credits arose. As a result, the Company's tax returns in the U.S. and California remain open to examination from fiscal years 2002 through 2019. As of July 31, 2019, the Company has no income tax audits in progress in the U.S. or foreign jurisdictions.

10. Defined Contribution and Other Post-Retirement Plans

The Company's employee savings and retirement plan in the United States is qualified under Section 401(k) of the Internal Revenue Code. Employees on the Company's U.S. payroll are automatically enrolled when they meet eligibility requirements, unless they decline participation. Upon enrollment employees are provided with tax-deferred salary deductions and various investment options. Employees may contribute up to 60% of their eligible salary up to the statutory prescribed annual limit. The Company matches employees' contributions up to $5,000 per participant per calendar year. Certain of the Company's foreign subsidiaries also have defined contribution plans in which a majority of its employees participate and the Company makes matching contributions. The Company's contributions to its 401(k) and foreign subsidiaries' plans were $9.9 million, $8.7 million, and $7.1 million for the fiscal years ended July 31, 2019, 2018, and 2017, respectively.

11. Segment Information

The Company operates in one segment. The Company's chief operating decision maker (the "CODM"), its Chief Executive Officer, manages the Company's operations on a consolidated basis for purposes of allocating resources. When evaluating the Company's financial performance, the CODM reviews separate revenue information for the Company's term license, perpetual license, subscription, maintenance, and services offerings, while all other financial information is reviewed on a consolidated basis. The Company's principal operations and decision-making functions are located in the United States.

Revenue by country and region based on the billing address of the customer is as follows (in thousands):

	Fiscal years ended July 31,		
	2019	2018	2017
United States	$ 446,586	$ 409,729	$ 301,083
Canada	46,969	45,591	50,956
Other Americas	18,118	19,154	19,447
Total Americas	511,673	474,474	371,486
United Kingdom	39,996	36,653	32,554
Other EMEA	96,390	75,178	48,727
Total EMEA	136,386	111,831	81,281
Total APAC	71,455	66,544	56,766
Total revenue	$ 719,514	$ 652,849	$ 509,533

No country other than those listed above accounted for more than 10% of revenue during the years ended July 31, 2019, 2018 and 2017.

The Company's long-lived assets, including goodwill and intangibles, net by geographic region are as follows (in thousands):

	July 31, 2019	July 31, 2018
Americas	$ 468,545	$ 449,588
EMEA	4,633	5,491
APAC	50	47
Total	$ 473,228	$ 455,126

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) The following documents are filed as part of this report:

1. Consolidated Financial Statements

See Index to Consolidated Financial Statements at Item 8 herein.

2. Financial Statement Schedules

Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes herein.

3. Exhibits

EXHIBIT INDEX

The exhibits listed below are filed or incorporated by reference as part of this Annual Report on Form 10-K/A.

Exhibit Number	Description	Incorporated by Reference From Form	Incorporated by Reference From Exhibit Number	Date Filed
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm.	Filed herewith	—	—
31.1	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act.	Filed herewith	—	—
31.2	Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act.	Filed herewith	—	—
32.1*	Certification of the Chief Executive Officer and the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act.	Furnished herewith	—	—
101.INS	Inline XBRL Instance Document.	Filed herewith	—	—
101.SCH	Inline XBRL Taxonomy Extension Schema Document.	Filed herewith	—	—
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.	Filed herewith	—	—
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.	Filed herewith	—	—
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.	Filed herewith	—	—
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.	Filed herewith	—	—

* The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Annual Report on Form 10-K/A and will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.

Signatures

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

Date: September 30, 2019

GUIDEWIRE SOFTWARE, INC.

By: /s/ Curtis Smith

Curtis Smith
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Guidewire Software, Inc.:

We consent to the incorporation by reference in the registration statements (Nos. 333-230132, 333-223478, 333-216530, 333-209906, 333-202541, 333-194290, 333-187004, and 333-179799) on Form S-8, and in the registration statements (Nos. 333-223487, 333-221298, 333-191856, and 333-191834) on Form S-3 of Guidewire Software, Inc. of our report dated September 30, 2019, with respect to the consolidated balance sheets of Guidewire Software, Inc. and subsidiaries as of July 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended July 31, 2019, and the related notes , and the effectiveness of Guidewire Software, Inc.'s internal control over financial reporting as of July 31, 2019, which report appears in the July 31, 2019 annual report on Form 10-K of Guidewire Software, Inc. Our report refers to a change in the method of accounting for revenue from contracts with customers in the year ended July 31, 2019 due to the adoption of FASB Accounting Standards Update 2014-09, *Revenue from Contracts with Customers (Topic 606)*.

/s/ KPMG LLP

Santa Clara, California
September 30, 2019

Exhibit 31.1

**CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a) OF
THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Mike Rosenbaum, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of Guidewire Software, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 30, 2019

By: /s/ Mike Rosenbaum
Mike Rosenbaum
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

**CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a) OF
THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Curtis Smith, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of Guidewire Software, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date:	September 30, 2019	By:	/s/ Curtis Smith
			Curtis Smith
			Chief Financial Officer
			(Principal Financial and Accounting Officer)

Exhibit 32.1

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K/A of Guidewire Software, Inc. for the year ended July 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Mike Rosenbaum, as Chief Executive Officer of Guidewire Software, Inc., hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Guidewire Software, Inc.

Date:	September 30, 2019	By:	/s/ Mike Rosenbaum
			Mike Rosenbaum
			Chief Executive Officer
			(Principal Executive Officer)

In connection with the Annual Report on Form 10-K/A of Guidewire Software, Inc. for the year ended July 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Curtis Smith, as Chief Financial Officer of Guidewire Software, Inc., hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Guidewire Software, Inc.

Date:	September 30, 2019	By:	/s/ Curtis Smith
			Curtis Smith
			Chief Financial Officer
			(Principal Financial and Accounting Officer)