CIENA CORP
Form 10-Q
June 06, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-Q
(Mark one)
þ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended April 30, 2018
OR
o 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: 001-36250
Ciena Corporation
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	23-2725311 (I.R.S. Employer Identification No.)
7035 Ridge Road, Hanover, MD (Address of Principal Executive Offices)	21076 (Zip Code)

(410) 694-5700
(Registrant’s telephone number, including area code)
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 þ NO o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES þ NO o
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the 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 þ	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o
			Emerging growth company o

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 o

Indicate by check mark whether the registrant is a shell company (as determined in Rule 12b-2 of the Exchange Act). YES o NO þ

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

Class	Outstanding at June 4, 2018
common stock, $0.01 par value	142,827,652

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

CIENA CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)
(unaudited)

	Quarter Ended April 30,		Six Months Ended April 30,	
	2018	2017	2018	2017
Revenue:				
Products	$604,226	$584,630	$1,129,835	$1,091,623
Services	125,752	122,392	246,278	236,896
Total revenue	729,978	707,022	1,376,113	1,328,519
Cost of goods sold:				
Products	372,568	327,295	685,688	614,106
Services	64,103	61,487	125,353	122,388
Total cost of goods sold	436,671	388,782	811,041	736,494
Gross profit	293,307	318,240	565,072	592,025
Operating expenses:				
Research and development	116,924	121,623	235,448	238,492
Selling and marketing	97,359	88,551	185,874	173,553
General and administrative	38,976	34,990	77,382	70,854
Amortization of intangible assets	3,623	10,980	7,246	25,531
Significant asset impairments and restructuring costs	4,359	4,276	10,320	6,671
Total operating expenses	261,241	260,420	516,270	515,101
Income from operations	32,066	57,820	48,802	76,924
Interest and other income (loss), net	1,296	(2,918)	2,871	(2,548)
Interest expense	(13,031)	(13,308)	(26,765)	(28,511)
Income before income taxes	20,331	41,594	24,908	45,865
Provision for income taxes	6,475	3,568	484,415	3,978
Net income (loss)	$13,856	$38,026	$(459,507)	$41,887
Basic net income (loss) per common share	$0.10	$0.27	$(3.19)	$0.30
Diluted net income (loss) per potential common share	$0.09	$0.25	$(3.19)	$0.29
Weighted average basic common shares outstanding	143,975	141,743	143,948	141,223
Weighted average dilutive potential common shares outstanding	147,973	165,273	143,948	147,842

The accompanying notes are an integral part of these Condensed Consolidated Financial Statements.

CIENA CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)
(unaudited)

	Quarter Ended April 30,		Six Months Ended April 30,	
	2018	2017	2018	2017
Net income (loss)	$13,856	$38,026	$(459,507)	$41,887
Change in unrealized loss on available-for-sale securities, net of tax	(76)	(278)	(337)	(527)
Change in unrealized gain on foreign currency forward contracts, net of tax	(2,537)	(899)	(35)	526
Change in unrealized gain on forward starting interest rate swap, net of tax	2,299	405	5,248	4,897
Change in cumulative translation adjustments	(7,133)	(2,243)	1,069	(1,753)
Other comprehensive income	(7,447)	(3,015)	5,945	3,143
Total comprehensive income (loss)	$6,409	$35,011	$(453,562)	$45,030

The accompanying notes are an integral part of these Condensed Consolidated Financial Statements.

CIENA CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)
(unaudited)

	April 30, 2018	October 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$652,096	$640,513
Short-term investments	268,584	279,133
Accounts receivable, net of allowance for doubtful accounts of $17.7 million and $17.6 million as of April 30, 2018 and October 31, 2017, respectively.	647,380	622,183
Inventories	231,338	267,143
Prepaid expenses and other	186,024	197,339
Total current assets	1,985,422	2,006,311
Long-term investments	58,895	49,783
Equipment, building, furniture and fixtures, net	298,631	308,465
Goodwill	267,442	267,458
Other intangible assets, net	90,573	100,997
Deferred tax asset, net	734,824	1,155,104
Other long-term assets	70,767	63,593
Total assets	$3,506,554	$3,951,711
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$264,398	$260,098
Accrued liabilities and other short-term obligations	270,231	322,934
Deferred revenue	101,918	102,418
Current portion of long-term debt	353,208	352,293
Total current liabilities	989,755	1,037,743
Long-term deferred revenue	76,725	82,589
Other long-term obligations	110,417	111,349
Long-term debt, net	585,538	583,688
Total liabilities	$1,762,435	$1,815,369
Commitments and contingencies (Note 17)		
Stockholders' equity:		
Preferred stock – par value $0.01; 20,000,000 shares authorized; zero shares issued and outstanding	—	—
Common stock – par value $0.01; 290,000,000 shares authorized; 143,427,976 and 143,043,227 shares issued and outstanding	1,434	1,430
Additional paid-in capital	6,810,226	6,810,182
Accumulated other comprehensive income (loss)	(5,072)	(11,017)
Accumulated deficit	(5,062,469)	(4,664,253)
Total stockholders' equity	1,744,119	2,136,342
Total liabilities and stockholders' equity	$3,506,554	$3,951,711

The accompanying notes are an integral part of these Condensed Consolidated Financial Statements.

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CIENA CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Six Months Ended April 30, 2018	2017
Cash flows provided by operating activities:		
Net income (loss)	$(459,507)	$41,887
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation of equipment, building, furniture and fixtures, and amortization of leasehold improvements	41,400	35,548
Share-based compensation costs	26,559	24,830
Amortization of intangible assets	11,824	33,466
Deferred tax provision	481,401	—
Provision for inventory excess and obsolescence	14,977	19,623
Provision for warranty	10,565	2,347
Other	12,645	10,416
Changes in assets and liabilities:		
Accounts receivable	(28,055)	9,381
Inventories	20,420	(95,554)
Prepaid expenses and other	2,623	(15,054)
Accounts payable, accruals and other obligations	(55,986)	(24,974)
Deferred revenue	(5,736)	3,832
Net cash provided by operating activities	73,130	45,748
Cash flows used in investing activities:		
Payments for equipment, furniture, fixtures and intellectual property	(31,946)	(60,328)
Restricted cash	54	—
Purchase of available for sale securities	(198,026)	(179,833)
Proceeds from maturities of available for sale securities	200,000	180,000
Settlement of foreign currency forward contracts, net	132	(2,965)
Purchase of cost method investment	(767)	—
Net cash used in investing activities	(30,553)	(63,126)
Cash flows used in financing activities:		
Payment of long-term debt	(2,000)	(47,296)
Payment for modification of term loans	—	(93,625)
Payment of capital lease obligations	(1,868)	(1,528)
Repurchases of common stock-repurchase program	(38,036)	—
Proceeds from issuance of common stock	11,804	10,345
Net cash used in financing activities	(30,100)	(132,104)
Effect of exchange rate changes on cash and cash equivalents	(894)	490
Net increase (decrease) in cash and cash equivalents	11,583	(148,992)
Cash and cash equivalents at beginning of period	640,513	777,615
Cash and cash equivalents at end of period	$652,096	$628,623
Supplemental disclosure of cash flow information		
Cash paid during the period for interest	$21,843	$23,439
Cash paid during the period for income taxes, net	$15,136	$11,379
Non-cash investing activities		
Purchase of equipment in accounts payable	$3,226	$3,818

Building subject to capital lease	$—	$20,695
Non-cash financing activities		
Repurchase of common stock in accrued liabilities from repurchase program	$1,111	$—

The accompanying notes are an integral part of these Condensed Consolidated Financial Statements.

CIENA CORPORATION
CONDENSED CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY
(in thousands, except share data)
(unaudited)

	Common Stock Shares	Par Value	Additional Paid-in-Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at October 31, 2017	143,043,227	$1,430	$6,810,182	$(11,017)	$(4,664,253)	$2,136,342
Net loss	—	—	—	—	(459,507)	(459,507)
Other comprehensive income	—	—	—	5,945	—	5,945
Repurchase of common stock	(1,627,233)	(16)	(39,131)	—	—	(39,147)
Issuance of shares from employee equity plans	2,011,982	20	11,784	—	—	11,804
Share-based compensation expense	—	—	26,559	—	—	26,559
Effect of adoption of new accounting standard	—	—	832	—	61,291	62,123
Balance at April 30, 2018	143,427,976	$1,434	$6,810,226	$(5,072)	$(5,062,469)	$1,744,119

	Common Stock Shares	Par Value	Additional Paid-in-Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at October 31, 2016	139,767,627	$1,398	$6,715,478	$(24,329)	$(5,926,206)	$766,341
Net income	—	—	—	—	41,887	41,887
Other comprehensive income	—	—	—	3,143	—	3,143
Issuance of shares from employee equity plans	2,000,821	20	10,325	—	—	10,345
Share-based compensation expense	—	—	24,830	—	—	24,830
Balance at April 30, 2017	141,768,448	$1,418	$6,750,633	$(21,186)	$(5,884,319)	$846,546

The accompanying notes are an integral part of these Condensed Consolidated Financial Statements.

CIENA CORPORATION
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

(1) INTERIM FINANCIAL STATEMENTS
The interim financial statements included herein for Ciena Corporation and its wholly owned subsidiaries (“Ciena”) have been prepared by Ciena, without audit, pursuant to the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC"). In the opinion of management, the financial statements included in this report reflect all normal recurring adjustments that Ciena considers necessary for the fair statement of the results of operations for the interim periods covered and of the financial position of Ciena at the date of the interim balance sheets. Certain information and footnote disclosures normally included in the annual financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") have been condensed or omitted pursuant to such rules and regulations. The Condensed Consolidated Balance Sheet as of October 31, 2017 was derived from audited financial statements, but does not include all disclosures required by GAAP. However, Ciena believes that the disclosures are adequate to understand the information presented herein. The operating results for interim periods are not necessarily indicative of the operating results for the entire year. These financial statements should be read in conjunction with Ciena’s audited consolidated financial statements and the notes thereto included in Ciena’s annual report on Form 10-K for the fiscal year ended October 31, 2017.
Ciena has a 52 or 53-week fiscal year, with quarters ending on the Saturday nearest to the last day of January, April, July and October, respectively, of each year. Fiscal 2018 is a 53-week fiscal year with the additional week occurring in the fourth quarter. Fiscal 2017 was a 52-week fiscal year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31, and the fiscal quarters are described as having ended on January 31, April 30 and July 31 of each fiscal year.

(2) SIGNIFICANT ACCOUNTING POLICIES

Except for the changes in certain policies described below, there have been no material changes to Ciena's significant accounting policies, compared to the accounting policies described in Note 1, Ciena Corporation and Significant Accounting Policies and Estimates, in Notes to Consolidated Financial Statements in Item 8 of Part II of Ciena's annual report on Form 10-K for the fiscal year ended October 31, 2017.

Government Grants
Ciena accounts for proceeds from government grants as a reduction of expense when there is reasonable assurance that Ciena has complied with the conditions attached to the grant and that grant proceeds will be received. Grant benefits are recorded to the line item in the Condensed Consolidated Statement of Operations to which the grant activity relates. See Note 17 below.

Newly Issued Accounting Standards - Effective

In January 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-01 ("ASU 2017-01"), Business Combinations: Clarifying the Definition of a Business, which clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisition or disposal of assets or businesses. The amendments in this update provide a screen to determine when a set of assets is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the set of assets is not a business. Ciena will evaluate the effect of the update at the time of any future acquisition or disposal. Ciena adopted ASU 2017-01 during the first quarter of fiscal 2018.

In August 2017, the FASB issued ASU No. 2017-12 ("ASU 2017-12"), Derivatives and Hedging: Targeted Improvements to Accounting for Hedging Activities, which improves the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements and make certain targeted improvements to simplify the application of the hedge accounting guidance in current GAAP. The amendments in this update better align an entity's risk management activities and financial reporting for hedging relationships, through changes to both the designation and measurement guidance for qualifying hedging relationships and presentation of hedge results. Ciena adopted ASU 2017-12 during the first quarter of fiscal 2018. For hedges for which Ciena has elected to exclude the spot-forward difference from assessment of effectiveness, Ciena has elected to amortize the difference on a straight-line basis. Ciena will record amortization in earnings each period with an offsetting entry to other comprehensive income, and all changes in fair value over the term of the derivative in other comprehensive income. The application of this accounting standard did not have a material impact on Ciena's Condensed Consolidated Financial Statements.

In March 2016, the FASB issued ASU No. 2016-09 ("ASU 2016-09"), Improvements to Employee Share-Based Payment Accounting, which provides guidance on several aspects of accounting for share-based payment transactions, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification on the statement of cash flows. Ciena adopted ASU 2016-09 during the first quarter of fiscal 2018. In connection with the adoption of this guidance, Ciena recognized approximately $62.1 million of deferred tax assets related to previously unrecognized tax benefits. This was recorded as a cumulative-effect adjustment to retained earnings as of the beginning of the first quarter of fiscal 2018. Additionally, the consolidated statements of cash flows will include excess tax benefits as an operating activity, on a prospective basis as a result of the adoption. Finally, Ciena has elected to recognize forfeitures when they occur, rather than to estimate the impact of forfeitures when the award is granted. Accordingly, Ciena recognized approximately $0.8 million for this change through a cumulative effect adjustment recorded to opening retained earnings in the first quarter of fiscal 2018.

Newly Issued Accounting Standards - Not Yet Effective

In May 2014, the FASB issued ASU No. 2014-09 ("ASU 2014-09"), Revenue from Contracts with Customers (Topic 606), which provides guidance for revenue recognition. ASU 2014-09 affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of non-financial assets. ASU 2014-09 will supersede the revenue recognition requirements in Topic 605, Revenue Recognition, and most industry-specific guidance. ASU 2014-09 also supersedes some cost guidance included in Subtopic 605-35, Revenue Recognition-Construction-Type and Production-Type Contracts.

For multiple element software arrangements where vendor-specific objective evidence ("VSOE") of undelivered maintenance does not exist, Ciena currently recognizes revenue for the entire arrangement over the maintenance term. Ciena expects that the adoption of ASU 2014-09 will require that it determine the stand alone selling price for each of the software and software-related deliverables at contract inception, and Ciena consequently expects certain software deliverables will be recognized at a point in time rather than over a period of time.

Ciena also expects certain installation and deployment, and consulting and network design services, will be recognized over a period of time rather than at a point in time.

Ciena has considered the impact of the guidance in Accounting Standards Codification ("ASC") 340-40, Other Assets and Deferred Costs; Contracts with Customers, and the interpretations of the FASB Transition Resource Group for Revenue Recognition (TRG) with respect to capitalization and amortization of incremental costs of obtaining a contract. In conjunction with this interpretation, Ciena has elected to implement the practical expedient clause allowing for incremental costs to be recognized as an expense when incurred if the period of the asset recognition is one year or less, and amortized over the period of performance, if the period of the asset recognition is greater than one year.

Ciena expects to implement ASU 2014-09 using the modified retrospective approach whereby the cumulative effect at adoption will be presented as an adjustment to the opening balance of retained earnings. The comparative information will not be restated and will continue to be reported under the accounting standards in effect for those periods. ASU 2014-09 will be effective for Ciena beginning in the first quarter of fiscal 2019. Ciena is continuing to evaluate other possible impacts of the adoption of this ASU on its Consolidated Financial Statements and disclosures.

In February 2016, the FASB issued ASU No. 2016-02 ("ASU 2016-02"), Leases, which requires an entity to recognize assets and liabilities on the balance sheet for the rights and obligations created by leased assets and to provide additional disclosures. ASU 2016-02 is effective for Ciena beginning in the first quarter of fiscal 2020. Under current GAAP, the majority of Ciena's leases for its properties are considered operating leases, and Ciena expects that the adoption of this ASU will require these leases to be classified as financing leases and to be recognized as assets and liabilities on Ciena's balance sheet. Ciena is continuing to evaluate other possible impacts of the adoption of ASU 2016-02 on its Consolidated Financial Statements and disclosures.

(3) RESTRUCTURING COSTS

Ciena has undertaken a number of restructuring activities intended to reduce expense and to better align its workforce and costs with market opportunities, product development and business strategies. The following table sets forth the restructuring activity and balance of the restructuring liability accounts for the six months ended April 30, 2018 (in thousands):

	Workforce reduction		Consolidation of excess facilities		Total
Balance at October 31, 2017	$ 1,291		$ 1,648		$2,939
Additional liability recorded	8,232	(1)	2,088	(2)	10,320
Cash payments	(8,211	)	(1,896	)	(10,107)
Balance at April 30, 2018	$ 1,312		$ 1,840		$3,152
Current restructuring liabilities	$ 1,312		$ 865		$2,177
Non-current restructuring liabilities	$ —		$ 975		$975

(1) Reflects a global workforce reduction of approximately 150 employees during fiscal 2018 as part of a business optimization strategy to improve gross margin, constrain operating expense and redesign certain business processes.

(2) Reflects unfavorable lease commitments in connection with a portion of facilities located in Petaluma, California.

The following table sets forth the restructuring activity and balance of the restructuring liability accounts for the six months ended April 30, 2017 (in thousands):

	Workforce reduction		Consolidation of excess facilities		Total
Balance at October 31, 2016	$ 868		$ 1,970		$2,838
Additional liability recorded	2,369	(1)	4,302	(2)	6,671
Cash payments	(3,084	)	(1,133	)	(4,217)
Balance at April 30, 2017	$ 153		$ 5,139		$5,292
Current restructuring liabilities	$ 153		$ 4,928		$5,081
Non-current restructuring liabilities	$ —		$ 211		$211

(1) Reflects a global workforce reduction of approximately 50 employees during the first quarter of fiscal 2017 as part of a business optimization strategy to improve gross margin, constrain operating expense and redesign certain business processes and systems.

(2) Reflects unfavorable lease commitments and relocation costs incurred during the second quarter of fiscal 2017 in connection with the facility transition from Ciena's existing research and development center located at Lab 10 on the former Nortel Carling Campus to a new campus facility in Ottawa, Canada.

(4) INTEREST AND OTHER INCOME (LOSS), NET

The components of interest and other income (loss), net, are as follows (in thousands):

	Quarter Ended April 30,		Six Months Ended April 30,	
	2018	2017	2018	2017
Interest income	$3,212	$1,507	$5,656	$2,789
Gains (losses) on non-hedge designated foreign currency forward contracts	2,868	(2,749)	2,169	(1,725)
Foreign currency exchange gain (loss)	(4,804)	1,292	(4,791)	(1,125)
Modification of term loan	—	(2,924)	—	(2,924)
Other	20	(44)	(163)	437
Interest and other income (loss), net	$1,296	$(2,918)	$2,871	$(2,548)

Ciena Corporation, as the U.S. parent entity, uses the U.S. Dollar as its functional currency; however, some of its foreign branch offices and subsidiaries use local currencies as their functional currencies. Ciena recorded $4.8 million and $1.1 million in foreign currency exchange rate losses during the first six months of fiscal 2018 and fiscal 2017, respectively, as a result of monetary assets and liabilities that were transacted in a currency other than the entity's functional currency, and the remeasurement adjustments were recorded in interest and other income (loss), net on the Condensed Consolidated Statements of Operations. From time to time, Ciena uses foreign currency forwards to hedge these balance sheet exposures. These forwards are not designated as hedges for accounting purposes, and any net gain or loss associated with these derivatives is reported in interest and other income (loss), net on the Condensed Consolidated Statements of Operations. During the first six months of fiscal 2018, Ciena recorded gains of $2.2 million from non-hedge designated foreign currency forward contracts. During the first six months of fiscal 2017, Ciena recorded losses of $1.7 million from non-hedge designated foreign currency forward contracts.

(5) INCOME TAXES

On December 22, 2017, the Tax Cuts and Jobs Act (the "Tax Act") was enacted. The Tax Act significantly revises the U.S. corporate income tax by, among other things, lowering the statutory corporate income tax rate (“federal tax rate”) from 35% to 21% effective January 1, 2018, implementing a modified territorial tax system, and imposing a mandatory one-time transition tax on accumulated earnings of foreign subsidiaries that were previously tax deferred. As a fiscal-year taxpayer, certain provisions of the Tax Act impact Ciena in fiscal 2018, including the change in the federal tax rate and the one-time transition tax, while other provisions will be effective at the beginning of fiscal 2019, including the implementation of a modified territorial tax system, other changes to how foreign earnings are subject to U.S. tax, and adoption of an alternative tax system.

As a result of the decrease in the federal tax rate from 35% to 21% effective January 1, 2018, Ciena has computed its income tax expense for the October 31, 2018 fiscal year using a blended federal tax rate of 23.4%. The 21% federal tax rate is expected to apply to Ciena’s fiscal year ending October 31, 2019 and each year thereafter. Ciena remeasured its deferred tax assets and liabilities ("DTA") using the federal tax rate that will apply when the related temporary differences are expected to reverse.

During the six months ended April 30, 2018, Ciena recorded a provisional tax expense of $484.4 million, primarily related to the Tax Act and consisted of the following: a $431.3 million charge related to the remeasurement of U.S. net deferred tax assets at the lower statutory rate under the Tax Act and a $45.6 million charge related to a transition tax on accumulated historical foreign earnings and its deemed repatriation to the U.S.

In December 2017, the SEC issued Staff Accounting Bulletin No. 118, which addresses how a company recognizes provisional amounts when it does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete its accounting for the effect of the changes due to the Tax Act. The measurement period ends when a company has obtained, prepared and analyzed the information necessary to finalize its accounting, but cannot extend beyond one year. The final impact of the Tax Act may differ from the above provisional amounts due to changes in interpretations of the Tax Act, legislative action to address questions that arise because of the Tax Act, changes in accounting standards for income taxes and related interpretations in response to the Tax Act, and any updates or changes to estimates used in the provisional amounts. Ciena has determined that the $45.6 million of tax expense for the U.S. transition tax on accumulated earnings of foreign subsidiaries and the $431.3 million of tax expense for DTA remeasurement were each provisional amounts and reasonable estimates as of April 30, 2018. Estimates used in the provisional amounts include the anticipated reversal pattern of the gross DTA plus the earnings and profits, cash position at the end of fiscal year 2018, foreign taxes and withholding taxes attributable to foreign subsidiaries.

Ciena currently intends to reinvest indefinitely its foreign earnings outside the U.S. However, Ciena intends to further study changes enacted by the Tax Act, costs of repatriation and the current and future cash needs of foreign operations to determine whether there is an opportunity to repatriate these earnings in the future on a tax-efficient basis. If Ciena determines to repatriate these earnings, the provisional amount of unrecognized deferred income tax liability related to these foreign withholding taxes would be approximately $24.0 million. There are no other significant temporary differences for which a deferred tax liability has not been recognized.

The significant components of DTA are as follows (in thousands):

	April 30, 2018	October 31, 2017
Deferred tax assets:		
Reserves and accrued liabilities	$36,115	$56,597
Depreciation and amortization	288,145	451,385
NOL and credit carry forward	538,869	803,622
Other	18,706	29,398
Gross deferred tax assets	881,835	1,341,002
Valuation allowance	(147,011)	(185,898)
Deferred tax asset, net of valuation allowance	$734,824	$1,155,104

In connection with the adoption of ASU 2016-09, Ciena recognized approximately $62.1 million of deferred tax assets related to previously unrecognized tax benefits. This was recorded as a cumulative-effect adjustment to retained earnings as of the beginning of the first quarter of fiscal 2018. See Note 2 above and Note 14 below. As of April 30, 2018, Ciena continues to maintain a valuation allowance of $147.0 million. This valuation allowance is primarily related to state and foreign net operating losses and credits that Ciena estimates it will not be able to use.

(6) SHORT-TERM AND LONG-TERM INVESTMENTS

As of the dates indicated, investments are comprised of the following (in thousands):

	April 30, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations:				
Included in short-term investments	$239,291	$ —	(601)	$238,690
Included in long-term investments	59,066	—	(171)	58,895
	$298,357	$ —	$ (772)	$297,585
Commercial paper:				
Included in short-term investments	$29,892	2	—	$29,894
	$29,892	$ 2	$ —	$29,894

	October 31, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations:				
Included in short-term investments	$249,498	$ —	$ (305)	$249,193
Included in long-term investments	49,910	—	(127)	49,783
	$299,408	$ —	$ (432)	$298,976
Commercial paper:				
Included in short-term investments	$29,939	1	—	$29,940
	$29,939	$ 1	$ —	$29,940

The following table summarizes the final legal maturities of debt investments at April 30, 2018 (in thousands):

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	Amortized Cost	Estimated Fair Value
Less than one year	$269,183	$268,584
Due in 1-2 years	59,066	58,895
	$328,249	$327,479

(7) FAIR VALUE MEASUREMENTS

As of the date indicated, the following table summarizes the assets and liabilities that are recorded at fair value on a recurring basis (in thousands):

	April 30, 2018		
	Level 1	Level 2	Total
Assets:			
Money market funds	$476,187	$—	$476,187
U.S. government obligations	—	297,585	297,585
Commercial paper	—	99,745	99,745
Foreign currency forward contracts	—	97	97
Forward starting interest rate swaps	—	6,333	6,333
Total assets measured at fair value	$476,187	$403,760	$879,947
Liabilities:			
Foreign currency forward contracts	$—	$1,317	$1,317
Total liabilities measured at fair value	$—	$1,317	$1,317

	October 31, 2017		
	Level 1	Level 2	Total
Assets:			
Money market funds	$511,355	$—	$511,355
U.S. government obligations	—	298,976	298,976
Commercial paper	—	89,865	89,865
Foreign currency forward contracts	—	227	227
Forward starting interest rate swaps	—	218	218
Total assets measured at fair value	$511,355	$389,286	$900,641
Liabilities:			
Foreign currency forward contracts	$—	$2,129	$2,129
Total liabilities measured at fair value	$—	$2,129	$2,129

As of the date indicated, the assets and liabilities above are presented on Ciena's Condensed Consolidated Balance Sheet as follows (in thousands):

	April 30, 2018		
	Level 1	Level 2	Total
Assets:			
Cash equivalents	$476,187	$69,851	$546,038
Short-term investments	—	268,584	268,584
Prepaid expenses and other	—	97	97
Long-term investments	—	58,895	58,895
Other long-term assets	—	6,333	6,333
Total assets measured at fair value	$476,187	$403,760	$879,947
Liabilities:			
Accrued liabilities	$—	$1,317	$1,317
Total liabilities measured at fair value	$—	$1,317	$1,317

	October 31, 2017		
	Level 1	Level 2	Total
Assets:			
Cash equivalents	$511,355	$59,925	$571,280
Short-term investments	—	279,133	279,133
Prepaid expenses and other	—	227	227
Long-term investments	—	49,783	49,783
Other long-term assets	—	218	218
Total assets measured at fair value	$511,355	$389,286	$900,641
Liabilities:			
Accrued liabilities	$—	$2,129	$2,129
Total liabilities measured at fair value	$—	$2,129	$2,129

Ciena did not have any transfers between Level 1 and Level 2 fair value measurements during the periods presented.

(8) INVENTORIES

As of the dates indicated, inventories are comprised of the following (in thousands):

	April 30, 2018	October 31, 2017
Raw materials	$48,356	$52,898
Work-in-process	13,253	18,623
Finished goods	165,733	185,488
Deferred cost of goods sold	55,161	61,340
	282,503	318,349
Provision for excess and obsolescence	(51,165)	(51,206)
	$231,338	$267,143

Ciena writes down its inventory for estimated obsolescence or unmarketable inventory by an amount equal to the difference between the cost of inventory and the estimated net realizable value based on assumptions about future demand and market conditions. During the first six months of fiscal 2018, Ciena recorded a provision for excess and obsolescence of $15.0 million, primarily related to a decrease in the forecasted demand for certain Networking Platforms products. Deductions from the provision for excess and obsolete inventory relate primarily to disposal activities.

(9) ACCRUED LIABILITIES AND OTHER SHORT-TERM OBLIGATIONS

As of the dates indicated, accrued liabilities and other short-term obligations are comprised of the following (in thousands):

	April 30, 2018	October 31, 2017
Compensation, payroll related tax and benefits[1]	$78,744	$ 113,272
Warranty	43,392	42,456
Vacation	42,744	39,778
Capital lease obligations	3,828	3,772
Interest payable	3,602	3,612
Other	97,921	120,044
	$270,231	$ 322,934

(1) Reduction is primarily due to the timing of bonus payments to employees under Ciena's annual cash incentive compensation plan.

The following table summarizes the activity in Ciena’s accrued warranty for the fiscal periods indicated (in thousands):

Six Months Ended April 30,	Beginning Balance	Current Period Provisions [1]	Settlements	Ending Balance
2017	$ 52,324	2,347	(8,646)	$46,025
2018	$ 42,456	10,565	(9,629)	$43,392

(1) As a result of lower than expected actual failure rates, Ciena adjusted its fiscal 2017 provision for warranty. This adjustment had the effect of reducing warranty provision by $6.3 million for the six months ended April 30, 2017.

(10) DERIVATIVE INSTRUMENTS

Foreign Currency Derivatives

As of April 30, 2018 and October 31, 2017, Ciena had forward contracts to hedge its foreign exchange exposure in order to reduce the variability in its Canadian Dollar and Indian Rupee denominated expense, which principally relates to research and development activities, and its Euro denominated revenue. The notional amount of these contracts was approximately $114.2 million and $86.1 million as of April 30, 2018 and October 31, 2017, respectively. These foreign exchange contracts have maturities of 12 months or less and have been designated as cash flow hedges.

During the first six months of fiscal 2018 and fiscal 2017, in order to hedge certain balance sheet exposures, Ciena entered into forward contracts to mitigate risk due to volatility in the Brazilian Real, Canadian Dollar and Mexican Peso. The notional amount of these contracts was approximately $92.5 million and $83.4 million as of April 30, 2018 and October 31, 2017, respectively. These foreign exchange contracts have maturities of 12 months or less and have not been designated as hedges for accounting purposes.

Interest Rate Derivatives

Ciena is exposed to floating rates of LIBOR interest on its term loan borrowings (see Note 12 below) and has hedged such risk by entering into floating to fixed interest rate swap arrangements ("interest rate swaps"). The interest rate swaps fix 98%, 82%, and 77% of the principal value of the 2022 Term Loan from February 2017 through July 2018, July 2018 through June 2020, and June 2020 through January 2021, respectively. The fixed rate on the amounts hedged during these periods will be 4.25%, 4.25% and 4.75%, respectively. The total notional amount of these interest rate swaps in effect as of April 30, 2018 was $387.6 million. The total notional amount of these interest rate swaps in effect as of October 31, 2017 was $389.6 million.

Ciena expects the variable rate payments to be received under the terms of the interest rate swaps to offset exactly the forecasted variable rate payments on the equivalent notional amounts of the term loans. These derivative contracts have been designated as cash flow hedges.

Other information regarding Ciena's derivatives is immaterial for separate financial statement presentation. See Note 4 and Note 7 above.

(11) ACCUMULATED OTHER COMPREHENSIVE INCOME

The following table summarizes the changes in accumulated balances of other comprehensive income ("AOCI") for the six months ended April 30, 2018:

	Unrealized Loss on Marketable Securities	Unrealized Gain (Loss) on Foreign Currency Contracts	Unrealized Gain on Forward Starting Interest Rate Swap	Cumulative Foreign Currency Translation Adjustment	Total
Balance at October 31, 2017	$ (451)	$ (1,386)	$ 218	$ (9,398)	$ (11,017)
Other comprehensive income (loss) before reclassifications	(337)	(440)	4,725	1,069	5,017
Amounts reclassified from AOCI	—	405	523	—	928
Balance at April 30, 2018	$ (788)	$ (1,421)	$ 5,466	$ (8,329)	$ (5,072)

The following table summarizes the changes in AOCI for the six months ended April 30, 2017:

	Unrealized Gain/(Loss) on Marketable Securities	Unrealized Gain (Loss) on Foreign Currency Contracts	Unrealized Gain (Loss) on Forward Starting Interest Rate Swap	Cumulative Foreign Currency Translation Adjustment	Total
Balance at October 31, 2016	$ 139	$ (1,091)	$ (5,967)	$ (17,410)	$ (24,329)
Other comprehensive income (loss) before reclassifications	(527)	52	3,556	(1,753)	1,328
Amounts reclassified from AOCI	—	474	1,341	—	1,815
Balance at April 30, 2017	$ (388)	$ (565)	$ (1,070)	$ (19,163)	$ (21,186)

All amounts reclassified from AOCI related to settlement (gains) losses on foreign currency forward contracts designated as cash flow hedges impacted revenue or research and development expense on the Condensed Consolidated Statements of Operations. All amounts reclassified from AOCI related to settlement (gains) losses on forward starting interest rate swaps designated as cash flow hedges impacted interest and other income (loss), net on the Condensed Consolidated Statements of Operations.

(12) SHORT-TERM AND LONG-TERM DEBT

Outstanding Term Loan Payable

2022 Term Loan

The net carrying value of Ciena's Term Loan due January 30, 2022 (the "2022 Term Loan") was comprised of the following for the fiscal periods indicated (in thousands):

	April 30, 2018	October 31, 2017
Term Loan Payable due January 30, 2022	$391,566	$392,972

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Deferred debt issuance costs that were deducted from the carrying amounts of the 2022 Term Loan totaled $2.7 million at April 30, 2018 and $3.1 million at October 31, 2017. Deferred debt issuance costs are amortized using the straight-line method, which approximates the effect of the effective interest rate method, through the maturity of the 2022 Term Loan. The amortization of deferred debt issuance costs for the 2022 Term Loan is included in interest expense, and was $0.4 million and$0.2 million during the first six months of fiscal 2018 and 2017, respectively. The carrying values of the 2022 Term Loan listed above are also net of any unamortized debt discounts.
The principal balance, unamortized debt discount, deferred debt issuance costs and net carrying value of the liability components of Ciena's 2022 Term Loan were as follows as of April 30, 2018 (in thousands):

	Principal Balance	Unamortized Debt Discount	Deferred Debt Issuance Costs	Net Carrying Value
Term Loan Payable due January 30, 2022	$396,000	$ (1,694)	$(2,740)	$391,566

The following table sets forth the carrying value and the estimated fair value of Ciena's 2022 Term Loan (in thousands):

	April 30, 2018	
	Carrying Value	Fair Value(1)
Term Loan Payable due January 30, 2022	$391,566	$397,980

(1) Ciena's term loan is categorized as Level 2 in the fair value hierarchy. Ciena estimated the fair value of its 2022 Term Loan using a market approach based upon observable inputs, such as current market transactions involving comparable securities.

Outstanding Convertible Notes Payable

The net carrying values of Ciena's outstanding convertible notes payable was comprised of the following for the fiscal periods indicated (in thousands):

	April 30, 2018	October 31, 2017
3.75% Convertible Senior Notes due October 15, 2018 (Original)	$61,180	$61,071
3.75% Convertible Senior Notes due October 15, 2018 (New)	288,028	287,221
4.0% Convertible Senior Notes due December 15, 2020	197,972	194,717
	$547,180	$543,009

Deferred debt issuance costs that were deducted from the carrying amounts of the convertible notes payable totaled $1.3 million at April 30, 2018 and $2.1 million at October 31, 2017. Deferred debt issuance costs are amortized using the straight-line method, which approximates the effect of the effective interest rate method, through the maturity of the convertible notes payable. The amortization of deferred debt issuance costs is included in interest expense, and was $0.8 million and $1.0 million during the first six months of fiscal 2018 and 2017, respectively. The carrying values of the convertible notes payable listed above also include accretion of principal and are net of any unamortized debt discounts.

The principal balance, unamortized debt discount, deferred debt issuance costs and net carrying value of the liability and equity components of Ciena's outstanding issues of convertible notes were as follows as of April 30, 2018 (in thousands):

	Liability Component				Equity Component
	Principal Balance	Unamortized Debt Discount	Deferred Debt Issuance Costs	Net Carrying Value	Net Carrying Value
3.75% Convertible Senior Notes, due October 15, 2018 (Original)	$61,270	$ —	$ (90)	$61,180	$ —
3.75% Convertible Senior Notes, due October 15, 2018 (New)	$288,730	$ (277)	$ (425)	$288,028	$ —
4.0% Convertible Senior Notes due December 15, 2020 [(1)]	$206,857	$ (8,079)	$ (806)	$197,972	$ 43,131

(1) Includes accretion of principal at a rate of 1.85% per year

The following table sets forth, in thousands, the net carrying value and the estimated fair value of Ciena's outstanding issues of convertible notes as of April 30, 2018:

	April 30, 2018	
	Net Carrying Value	Fair Value[(1)]
3.75% Convertible Senior Notes, due October 15, 2018 (Original)	$61,180	$80,907
3.75% Convertible Senior Notes, due October 15, 2018 (New)	288,028	381,268
4.0% Convertible Senior Notes due December 15, 2020	197,972	265,125
	$547,180	$727,300

(1) The convertible notes were categorized as Level 2 in the fair value hierarchy. Ciena estimates the fair value of its outstanding convertible notes using a market approach based on observable inputs, such as current market transactions involving comparable securities.

(13) EARNINGS PER SHARE CALCULATION

The following table (in thousands except per share amounts) is a reconciliation of the numerator and denominator of the basic net income (loss) per common share ("Basic EPS") and the diluted net income (loss) per potential common share ("Diluted EPS"). Basic EPS is computed using the weighted average number of common shares outstanding. Diluted EPS is computed using the weighted average number of the following, in each case, to the extent the effect is not anti-dilutive: (i) common shares outstanding; (ii) shares issuable upon vesting of restricted stock units; (iii) shares issuable under Ciena's employee stock purchase plan and upon exercise of outstanding stock options, using the treasury stock method; (iv) shares underlying Ciena's outstanding convertible notes for which Ciena uses the treasury stock method (the New Notes); and (v) shares underlying Ciena's outstanding convertible notes for which Ciena uses the if-converted method.

	Quarter Ended April 30,		Six Months Ended April 30,	
Numerator	2018	2017	2018	2017
Net income (loss)	$13,856	$38,026	$(459,507)	$41,887
Add: Interest expense associated with 0.875% Convertible Senior Notes due 2017 [(1)]	—	495	—	1,097
	—	3,588	—	—

Add: Interest expense associated with 3.75% Convertible Senior Notes due 2018 (Original)				
Net income (loss) used to calculate Diluted EPS	$13,856	$42,109	$(459,507)	$42,984

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Denominator	Quarter Ended April 30, 2018	2017	Six Months Ended April 30, 2018	2017
Basic weighted average shares outstanding	143,975	141,743	143,948	141,223
Add: Shares underlying outstanding stock options and restricted stock units and issuable under employee stock purchase plan	1,345	1,317	—	1,409
Add: Shares underlying 0.875% Convertible Senior Notes due 2017 (1)	—	4,857	—	5,210
Add: Shares underlying 3.75% Convertible Senior Notes due 2018 (New) (2)	2,653	—	—	—
Add: Shares underlying 3.75% Convertible Senior Notes due 2018 (Original)	—	17,356	—	—
Dilutive weighted average shares outstanding	147,973	165,273	143,948	147,842

EPS	Quarter Ended April 30, 2018	2017	Six Months Ended April 30, 2018	2017
Basic EPS	$0.10	$0.27	$(3.19)	$0.30
Diluted EPS	$0.09	$0.25	$(3.19)	$0.29

The following table summarizes the weighted average shares excluded from the calculation of the denominator for Diluted EPS due to their anti-dilutive effect for the periods indicated (in thousands):

	Quarter Ended April 30, 2018	2017	Six Months Ended April 30, 2018	2017
Shares underlying stock options and restricted stock units	304	725	2,496	1,141
3.75% Convertible Senior Notes due October 15, 2018 (Original)	3,038	—	3,038	17,356
3.75% Convertible Senior Notes due October 15, 2018 (New) (2)	—	—	1,672	—
4.0% Convertible Senior Notes due December 15, 2020	9,198	9,198	9,198	9,198
Total shares excluded due to anti-dilutive effect	12,540	9,923	16,404	27,695

(1) Ciena's 0.875% convertible senior notes were paid at maturity during the third quarter of fiscal 2017.
(2) Upon any conversion of the outstanding 3.75% Convertible Senior Notes due 2018 ("New Notes"), Ciena intends to settle the principal amount thereof in cash. Accordingly, Ciena uses the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The 14.3 million shares underlying the New Notes will have a dilutive impact on diluted net income per share of common stock when the average market price of Ciena common stock for a given period exceeds the conversion price of $20.17 per share for the New Notes. During the second quarter of fiscal 2018, the average market price of Ciena common stock was $24.76. As a result, for the quarter ended April 30, 2018, the conversion spread for the New Notes is 2.7 million shares and included in the calculation of the denominator. For the six months ended April 30, 2018, the conversion spread for the New Notes is 1.7 million shares; however, these shares were excluded from the calculation of the denominator as their inclusion would have had an anti-dilutive effect.

(14) STOCKHOLDERS' EQUITY

Adoption of ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting
In connection with the adoption of ASU 2016-09, Ciena recognized approximately $62.1 million of deferred tax assets related to previously unrecognized tax benefits. This was recorded as a cumulative-effect adjustment to retained earnings as of the beginning of the first quarter of fiscal 2018. Ciena also elected to recognize forfeitures of stock

awards when they occur, rather than estimate the impact of forfeitures when the award is granted. Accordingly, Ciena recognized approximately $0.8 million for this change through a cumulative effect adjustment recorded to opening retained earnings in the period of adoption.

Stock Repurchase Program

On December 7, 2017, Ciena announced that its Board of Directors authorized a program to repurchase up to $300 million of Ciena's common stock through the end of fiscal 2020. Ciena may purchase shares at management's discretion in the open market, in privately negotiated transactions, in transactions structured through investment banking institutions, or a combination of the foregoing. Ciena may also, from time to time, enter into Rule 10b5-1 plans to facilitate repurchases of its shares under this authorization. The amount and timing of repurchases are subject to a variety of factors, including liquidity, cash flow, stock price, and general business and market conditions. The program may be modified, suspended, or discontinued at any time.

A summary of the stock repurchase program, reported based on trade date, is summarized as follows:

	Shares Repurchased	Weighted-Average Price per Share	Amount Repurchased (in thousands)
Cumulative balance at October 31, 2017	—	$ —	$ —
Repurchase of common stock under the stock repurchase program	1,627,233	24.06	39,147
Cumulative balance at April 30, 2018	1,627,233	$ 24.06	$ 39,147

The purchase price for the shares of Ciena's stock repurchased is reflected as a reduction to stockholders' equity. Ciena is required to allocate the purchase price of the repurchased shares as a reduction of common stock and additional paid-in capital.

(15) SHARE-BASED COMPENSATION EXPENSE

The following table summarizes share-based compensation expense for the periods indicated (in thousands):

	Quarter Ended April 30,		Six Months Ended April 30,	
	2018	2017	2018	2017
Product costs	$824	$708	$1,496	$1,269
Service costs	722	679	1,346	1,307
Share-based compensation expense included in cost of sales	1,546	1,387	2,842	2,576
Research and development	3,796	3,653	7,052	6,862
Sales and marketing	3,760	3,513	7,088	6,386
General and administrative	5,109	3,417	9,583	8,870
Share-based compensation expense included in operating expense	12,665	10,583	23,723	22,118
Share-based compensation expense capitalized in inventory, net	(45)	35	(6)	136
Total share-based compensation	$14,166	$12,005	$26,559	$24,830

As of April 30, 2018, total unrecognized share-based compensation expense was approximately $93.0 million which relates to unvested restricted stock units and is expected to be recognized over a weighted-average period of 1.6 years.

(16) SEGMENTS AND ENTITY-WIDE DISCLOSURES

Segment Reporting

Ciena manages its business, measures its performance and allocates its resources based on the following operating segments:

- Networking Platforms reflects sales of Ciena's Converged Packet Optical and Packet Networking product lines.
  Converged Packet Optical — includes the 6500 Packet-Optical Platform, the 5430 Reconfigurable Switching System, Waveserver stackable interconnect system, the family of CoreDirector® Multiservice Optical Switches and the OTN configuration for the 5410 Reconfigurable Switching System. This product line also includes sales of the Z-Series Packet-Optical Platform. As of the first quarter of fiscal 2018, sales of Optical Transport products are also reflected within the Converged Packet Optical product line for all periods presented.
  Packet Networking — includes the 3000 family of service delivery switches and service aggregation switches and the 5000 family of service aggregation switches. This product line also includes the 8700 Packetwave Platform and the Ethernet packet configuration for the 5410 Service Aggregation Switch.

The Networking Platforms segment also includes sales of operating system software and enhanced software features embedded in each of the product lines above. Revenue from this segment is included in product revenue on the Condensed Consolidated Statements of Operations.

- Software and Software-Related Services reflects sales of Ciena's network virtualization, management, control and orchestration software solutions and software-related services, including subscription, installation, support, and consulting services.
  This segment includes Ciena's Blue Planet network virtualization, service orchestration and network management software platform. Ciena's Blue Planet platform includes multi-domain service orchestration (MDSO), network function virtualization (NFV), management and orchestration (NFV MANO), and Ciena's manage, control and plan (MCP) domain controller solution, SDN Multilayer Controller and V-WAN application.
  This segment includes Ciena's element and network management solutions and planning tools, including the OneControl Unified Management System, ON-Center® Network & Service Management Suite, Ethernet Services Manager, Optical Suite Release and Planet Operate. As Ciena seeks adoption of its Blue Planet software platform and transitions features, functionality and customers to this platform, Ciena expects revenue declines for its other element and network management solutions.

Revenue from the software platforms portion of this segment is included in product revenue on the Condensed Consolidated Statements of Operations. Revenue from software-related services is included in services revenue on the Condensed Consolidated Statements of Operations.

- Global Services reflects sales of a broad range of Ciena's services for consulting and network design, installation and deployment, maintenance support and training activities. Revenue from this segment is included in services revenue on the Condensed Consolidated Statements of Operations.

Ciena's long-lived assets, including equipment, building, furniture and fixtures, finite-lived intangible assets and maintenance spares, are not reviewed by Ciena's chief operating decision maker for purposes of evaluating performance and allocating resources. As of April 30, 2018, equipment, building, furniture and fixtures, net totaled $298.6 million primarily supporting asset groups within Ciena's Networking Platforms and Software and Software-Related Services segments and supporting Ciena's unallocated selling and general and administrative activities. As of April 30, 2018, $34.5 million of Ciena's intangible assets, net were assigned to asset groups within Ciena's Networking Platforms segment and $56.1 million of Ciena's intangible assets, net were assigned to asset groups within Ciena's Software and Software-Related Services segment. As of April 30, 2018, all of the maintenance spares, net, totaling $43.2 million, were assigned to asset groups within Ciena's Global Services segment.

Segment Revenue

The table below (in thousands) sets forth Ciena's segment revenue for the respective periods:

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	Quarter Ended April 30, 2018	Quarter Ended April 30, 2017	Six Months Ended April 30, 2018	Six Months Ended April 30, 2017
Revenue:				
Networking Platforms				
Converged Packet Optical	$527,867	$505,161	$955,297	$922,911
Packet Networking	63,815	66,326	132,418	138,520
Total Networking Platforms	591,682	571,487	1,087,715	1,061,431
Software and Software-Related Services				
Software Platforms	12,544	13,143	42,120	30,192
Software-Related Services	26,201	24,573	50,112	46,904
Total Software and Software-Related Services	38,745	37,716	92,232	77,096
Global Services				
Maintenance Support and Training	60,904	58,241	116,862	113,231
Installation and Deployment	28,209	28,695	58,225	56,614
Consulting and Network Design	10,438	10,883	21,079	20,147
Total Global Services	99,551	97,819	196,166	189,992
Consolidated revenue	$729,978	$707,022	$1,376,113	$1,328,519

Segment Profit

Segment profit is determined based on internal performance measures used by Ciena's chief executive officer to assess the performance of each operating segment in a given period. In connection with that assessment, the chief executive officer excludes the following items: selling and marketing costs; general and administrative costs; amortization of intangible assets; significant asset impairments and restructuring costs; interest and other income (loss), net; interest expense; and provision for income taxes.

The table below (in thousands) sets forth Ciena's segment profit and the reconciliation to consolidated net income (loss) during the respective periods indicated:

	Quarter Ended April 30, 2018	Quarter Ended April 30, 2017	Six Months Ended April 30, 2018	Six Months Ended April 30, 2017
Segment profit:				
Networking Platforms	$126,823	$150,464	$215,392	$264,210
Software and Software-Related Services	8,276	4,551	31,911	12,252
Global Services	41,284	41,602	82,321	77,071
Total segment profit	176,383	196,617	329,624	353,533
Less: Non-performance operating expenses				
Selling and marketing	97,359	88,551	185,874	173,553
General and administrative	38,976	34,990	77,382	70,854
Amortization of intangible assets	3,623	10,980	7,246	25,531
Significant asset impairments and restructuring costs	4,359	4,276	10,320	6,671
Add: Other non-performance financial items				
Interest expense and other income (loss), net	(11,735)	(16,226)	(23,894)	(31,059)
Less: Provision for income taxes	6,475	3,568	484,415	3,978
Consolidated net income (loss)	$13,856	$38,026	$(459,507)	$41,887

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Entity-Wide Reporting

Ciena's revenue includes $392.8 million and $392.0 million of United States revenue for the second quarter of fiscal 2018 and 2017, respectively. Ciena's revenue includes $79.4 million of India revenue for the second quarter of fiscal 2018. For the six months ended April 30, 2018 and 2017, United States revenue was $776.1 million and $771.7 million, respectively. No other country accounted for 10% or more of total revenue for the periods presented above.

The following table reflects Ciena's geographic distribution of equipment, building, furniture and fixtures, net, with any country accounting for at least 10% of total equipment, building, furniture and fixtures, net, specifically identified. Equipment, building, furniture and fixtures, net, attributable to geographic regions outside of the U.S. and Canada are reflected as “Other International.” For the periods below, Ciena's geographic distribution of equipment, building, furniture and fixtures was as follows (in thousands):

	April 30, 2018	October 31, 2017
Canada	$ 197,632	$ 203,491
United States	81,051	90,482
Other International	19,948	14,492
Total	$ 298,631	$ 308,465

For the periods below, AT&T was the only customer that accounted for at least 10% of Ciena’s revenue as follows (in thousands):

	Quarter Ended April 30,		Six Months Ended April 30,	
	2018	2017	2018	2017
AT&T	$ 85,419	$ 107,532	$ 176,065	$ 203,969

AT&T purchased products and services from each of Ciena's operating segments.

(17) COMMITMENTS AND CONTINGENCIES

Canadian Grant

During the second quarter of fiscal 2018, Ciena entered into agreements related to the Evolution of Networking Services through a Corridor in Quebec and Ontario for Research and Innovation ("ENCQOR") project with the Canadian federal government, the government of the province of Ontario and the government of the province of Quebec to develop a 5G technology corridor between Quebec and Ontario to promote research and development, small business enterprises and entrepreneurs in Canada. Under these agreements, Ciena can receive up to an aggregate CAD$57.6 million (approximately $45.0 million) in reimbursement by the three Canadian government entities for eligible costs over a period commencing on February 20, 2017 and ending on March 31, 2022. Ciena anticipates receiving recurring disbursements over this period. Amounts received under the agreements are subject to recoupment in the event that Ciena fails to achieve certain minimum investment, employment and project milestones. During the second quarter of fiscal 2018, Ciena recorded a CAD$10.3 million (approximately $8.1 million) benefit as a reduction in research and development expense, related to eligible costs that it incurred from the commencement date of February 20, 2017 to April 30, 2018, because it believes it has complied with the conditions of the agreements entitling it to this amount. In future periods, through the term of these agreements, Ciena expects to record a quarterly benefit to operating expense of approximately CAD$2.95 million (approximately $2.3 million) related to these grants.

Foreign Tax Contingencies

Ciena is subject to various tax liabilities arising in the ordinary course of business. Ciena does not expect that the ultimate settlement of these tax liabilities will have a material effect on its results of operations, financial position or cash flows.

Litigation

As a result of the acquisition of Cyan in August 2015, Ciena became a defendant in a securities class action lawsuit. On April 1, 2014, a purported stockholder class action lawsuit was filed in the Superior Court of California, County of San Francisco, against Cyan, the members of Cyan's board of directors, Cyan's former Chief Financial Officer, and the underwriters of Cyan's initial public offering. On April 30, 2014, a substantially similar lawsuit was filed in the same court against the same defendants. The two cases were consolidated as Beaver County Employees Retirement Fund, et al. v. Cyan, Inc. et al., Case No. CGC-14-538355. The consolidated complaint alleges violations of federal securities laws on behalf of a purported class consisting of purchasers of Cyan’s common stock pursuant or traceable to the registration statement and prospectus for Cyan’s initial public offering in April 2013, and seeks unspecified compensatory damages and other relief. On May 19, 2015, the proposed class was certified. On August 25, 2015, the defendants filed a motion for judgment on the pleadings based on an alleged lack of subject matter jurisdiction over the case, which motion was denied on October 23, 2015. On May 24, 2016, the defendants filed a petition for a writ of certiorari on the jurisdiction issue with the U.S. Supreme Court, which petition was granted on June 27, 2017. The matter was stayed by the Superior Court pending the outcome of the Supreme Court’s decision. On March 20, 2018, the Supreme Court held that the Superior Court had subject matter jurisdiction over the case. A case management conference is scheduled before the Superior Court during the third quarter of fiscal 2018. Ciena believes that the consolidated lawsuit is without merit and intends to defend it vigorously.

Internal Investigations

During fiscal 2017, one of Ciena’s third-party vendors raised allegations about certain questionable payments to one or more individuals employed by a customer in a country in the ASEAN region. Ciena promptly initiated an internal investigation into the matter, with the assistance of outside counsel, which investigation corroborated direct and indirect payments to one such individual and sought to determine whether the payments may have violated applicable laws and regulations, including the U.S. Foreign Corrupt Practices Act (“FCPA”). In September 2017, Ciena voluntarily contacted the SEC and the U.S. Department of Justice (“DOJ”) to advise them of the relevant events and the findings of Ciena’s internal investigation. With the direct oversight of Ciena's Board of Directors, Ciena continues to cooperate fully with the SEC and DOJ in their review of the investigation.

Ciena’s operations in the relevant country have constituted less than 1.5% of consolidated revenues as reported by Ciena in each fiscal year since 2012. Ciena does not currently anticipate that this matter will have a material adverse effect on its business, financial condition or results of operations. However, as discussions with the SEC and DOJ are ongoing, the ultimate outcome of this matter cannot be predicted at this time. As of the filing of this Report, no provision with respect to this matter has been made in Ciena’s consolidated financial statements. Any determination that Ciena’s operations or activities are not in compliance with the FCPA or other applicable laws or regulations could result in the imposition of fines, civil and criminal penalties, and equitable remedies, including disgorgement or injunctive relief.

In addition to the matters described in “Litigation” and “Internal Investigations” above, Ciena is subject to various legal proceedings, claims and other matters arising in the ordinary course of business, including those that relate to employment, commercial, tax and other regulatory matters. Ciena is also subject to intellectual property related claims, including claims against third parties that may involve contractual indemnification obligations on the part of Ciena. Ciena does not expect that the ultimate costs to resolve such matters will have a material effect on its results of operations, financial position or cash flows.

(18) SUBSEQUENT EVENTS

Stock Repurchase Program

From the end of the second quarter of fiscal 2018 through June 4, 2018, Ciena repurchased an additional 611,942 shares of its common stock, for an aggregate purchase price of $15.4 million at an average price of $25.15 per share, inclusive of repurchases pending settlement. As of June 4, 2018, Ciena has an aggregate of $245.5 million of authorized funds remaining under its Stock Repurchase Program.

Packet Design Acquisition

On May 30, 2018, Ciena entered into a definitive agreement to acquire privately-held Packet Design, LLC, a provider of network performance management software focused on Layer 3 network optimization, topology and route analytics. The transaction is expected to close during Ciena's fiscal third quarter 2018 and is subject to customary closing conditions.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Cautionary Note Regarding Forward-Looking Statements

This quarterly report contains statements that discuss future events or expectations, projections of results of operations or financial condition, changes in the markets for our products and services, trends in our business, business prospects and strategies and other "forward-looking" information. In some cases, you can identify "forward-looking statements" by words like "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "intends," "potential, "targets," or "continue" or the negative of those words and other comparable words. These statements may relate to, among other things, our competitive landscape; market conditions and growth opportunities; factors impacting our industry; factors impacting the businesses of network operators and their network architectures; adoption of next-generation network technology and software programmability and control of networks; our strategy, including our research and development, supply chain and go-to-market initiatives; efforts to increase application of our solutions in customer networks and to increase the reach of our business into new or growing customer and geographic markets; our backlog and seasonality in our business; expectations for our financial results, revenue, gross margin, operating expense and key operating measures in future periods; the adequacy of our sources of liquidity to satisfy our working capital needs, capital expenditures, and other liquidity requirements; business initiatives including IT transitions or initiatives; the impact of the Tax Cuts and Jobs Act and provisional estimates with respect thereto; and market risks associated with financial instruments and foreign currency exchange rates. These statements are subject to known and unknown risks, uncertainties and other factors, and actual events or results may differ materially due to factors such as:

- our ability to execute our business and growth strategies;
- fluctuations in our revenue, gross margin and operating results and our financial results generally;
- the loss of any of our large customers, a significant reduction in their spending, or a material change in their networking or procurement strategies;
- the competitive environment in which we operate;
- market acceptance of products and services currently under development and delays in product or software development;
- lengthy sales cycles and onerous contract terms with communications service providers, Web-scale providers and other large customers;
- product performance or security problems and undetected errors;

- our ability to diversify our customer base beyond our traditional customers and to broaden the application for our solutions in communications networks;
- the level of growth in network traffic and bandwidth consumption and the corresponding level of investment in network infrastructures by network operators;
- the international scale of our operations and fluctuations in currency exchange rates;
- our ability to forecast accurately demand for our products for purposes of inventory purchase practices;
- the impact of pricing pressure and price erosion that we regularly encounter in our markets;
- our ability to enforce our intellectual property rights, and costs we may incur in response to intellectual property right infringement claims made against us;
- the continued availability, on commercially reasonable terms, of software and other technology under third-party licenses;
- the potential failure to maintain the security of confidential, proprietary or otherwise sensitive business information or systems or to protect against cyber attacks;

- the performance of our third-party contract manufacturers;
- changes or disruption in components or supplies provided by third parties, including sole and limited source suppliers;
- our ability to manage effectively our relationships with third-party service partners and distributors;
- unanticipated risks and additional obligations in connection with our resale of complementary products or technology of other companies;
- our ability to grow and maintain our new distribution relationships under which we will make available certain technology as a component;
- our exposure to the credit risks of our customers and our ability to collect receivables;
- modification or disruption of our internal business processes and information systems;
- the effect of our outstanding indebtedness on our liquidity and business;
- fluctuations in our stock price and our ability to access the capital markets to raise capital;
- unanticipated expenses or disruptions to our operations caused by facilities transitions or restructuring activities;
- our ability to attract and retain experienced and qualified personnel;
- disruptions to our operations caused by strategic acquisitions and investments or the inability to achieve the expected benefits and synergies of newly-acquired businesses;
- our ability to grow our software business and address networking strategies including software-defined networking and network function virtualization;
- changes in, and the impact of, government regulations, including with respect to: the communications industry generally; the business of our customers; the use, import or export of products; and the environment, potential climate change, and other social initiatives;
- the impact of the Tax Cuts & Jobs Act and any adjustments to provisional estimates relating thereto;
- future legislation or executive action in the U.S. relating to tax policy or trade regulation;
- the write-down of goodwill, long-lived assets, or our deferred tax assets;
- our ability to maintain effective internal controls over financial reporting and liabilities that result from the inability to comply with corporate governance requirements; and
- adverse results in litigation matters.

These are only some of the factors that may affect the forward-looking statements contained in this quarterly report. For a discussion identifying additional important factors that could cause actual results to vary materially from those anticipated in the forward-looking statements, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors” in this quarterly report. For a more complete understanding of the risks associated with an investment in Ciena’s securities, you should review these risk factors and the rest of this quarterly report in combination with the more detailed description of our business and management’s discussion and analysis of financial condition and risk factors described in our annual report on Form 10-K, which we filed with the Securities and Exchange Commission (the "SEC") on December 22, 2017. However, we operate in a very competitive and rapidly changing environment and new risks and uncertainties emerge, are identified or become apparent from time to time. We cannot predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this quarterly report. You should be aware that the forward-looking statements contained in this quarterly report are based on our current views and assumptions. We undertake no obligation to revise or update any forward-looking statements made in this quarterly report to reflect events or circumstances after the date hereof or to reflect new information or the occurrence of unanticipated events, except as required by law. The forward-looking statements in this quarterly report are intended to be subject to protection afforded by the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

Overview

We are a network strategy and technology company, providing solutions that enable a wide range of network operators to deploy and manage next-generation communication architectures that deliver a broad array of services. We provide network hardware, software and services that support the transport, switching, aggregation, service delivery and management of video, data, and voice traffic on communications networks. Our high-capacity hardware and network management and control software solutions enable open, programmable networks that enhance automation, reduce network complexity, and support changing service requirements. Our solutions create business and operational value for our customers by enabling them to introduce new revenue-generating services and reduce network costs.

Our solutions include a diverse set of Networking Platforms products, which are used by a broad range of network operator customers and market segments, including communications service providers, cable and multiservice operators, Web-scale providers, submarine network operators, governments, enterprises, research and education (R&E) institutions, and other emerging network operators. These products, which can be applied from the network core to network access points, allow network operators to scale capacity, increase transmission speeds, allocate traffic and adapt dynamically to changing end-user service demands. In addition to our portfolio of high-capacity hardware systems and components, we offer network management and domain control software platforms, along with advanced applications software, designed to simplify the creation, automation and delivery of services across multi-vendor and multi-domain network environments. To complement our hardware and software solutions, we offer a broad range of services that help our customers design, optimize, integrate, deploy, manage, and maintain their networks.

Diversification of our business. We continue to diversify our customer base to include fast-growing customer segments, such as Web-scale providers, data center operators and emerging network operators, which have been important contributors to our overall growth and which are included among our largest customers by revenue. This diversification of our customer base can result in shifts in product mix, as evidenced by the increased sales of our WaveServer platform in recent periods. At the same time, a significant portion of our revenue and customer base continues to consist of sales to large service provider customers. Sales to AT&T were $176.1 million, or 12.8% of total revenue, during the first six months of fiscal 2018, and $204.0 million, or 15.4% of total revenue, during the first six months of fiscal 2017. Our revenue growth has benefited from a go-to-market strategy focused on generating new customer wins, displacing competitors, and capturing additional opportunities with service providers in international markets, particularly in our Asia-Pacific and India regions. We believe that continued diversification of our business is important to address the dynamic industry environment in which we operate, to continue to grow our business, and to better withstand potential slowdowns adversely affecting particular geographies, markets, customers or customer segments.

Stock Repurchase Authorization. On December 7, 2017, we announced that our Board of Directors authorized a program to repurchase up to $300 million of our outstanding common stock through the end of fiscal 2020. We may purchase shares at management’s discretion in the open market, in privately negotiated transactions, in transactions structured through investment banking institutions, or a combination of the foregoing. We may also, from time to time, enter into Rule 10b5-1 plans to facilitate repurchases of shares under this authorization. The amount and timing of repurchases are subject to a variety of factors including liquidity, cash flow, stock price, and general business and market conditions. The program may be modified, suspended, or discontinued at any time. For additional information, including our repurchase activities under the program, see Note 14 and Note 18 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report and Item 2 of Part II of this report.

Impact of Tax Cuts and Jobs Act. Our results of operations for fiscal 2018 have been impacted by enactment of the Tax Cuts and Jobs Act (the "Tax Act") in December 2017. Specifically, our results for fiscal 2018 include a provisional $476.9 million tax charge consisting of the following:

- $431.3 million charge related to the remeasurement of U.S. net deferred tax assets at the lower statutory rate under the Tax Act; and

- $45.6 million charge related to a transition tax on accumulated historical foreign earnings and its deemed repatriation to the U.S.

These amounts are provisional and reflect management’s current estimates and current interpretations of the Tax Act. These amounts may require adjustment in future periods as additional guidance under the Tax Act becomes available and analysis of its provisions is completed. See Note 5 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report for more information related to the impact of the Tax Act.

Packet Design Acquisition. On May 30, 2018, we entered into a definitive agreement to acquire privately-held Packet Design, LLC, a provider of network performance management software focused on Layer 3 network optimization, topology and route analytics. We expect the acquisition of Packet Design to help accelerate our Blue Planet software strategy by extending our intelligent automation capabilities beyond Layers 0-2 and into Internet Protocols with critical new capabilities to help customers optimize service delivery and maximize network utilization. The transaction is expected to close during our fiscal third quarter 2018 and is subject to customary closing conditions.

Available Information. Our quarterly reports on Form 10-Q, annual reports on Form 10-K, current reports on Form 8-K, and any amendments thereto filed or furnished with the SEC are available through the SEC's website at www.sec.gov or free of charge on our website as soon as reasonably practicable after we file or furnish these documents. We routinely post the reports above, recent news and announcements, financial results and other information about Ciena that is important to investors in the "Investors" section of our website at www.ciena.com. Investors are encouraged to review the “Investors” section of our website because, as with the other disclosure channels that we use, from time to time we may post material information on that site that is not otherwise disseminated by us.

For additional information on our business, industry, market opportunity, competitive landscape, and strategy, see our annual report on Form 10-K for the fiscal year ended October 31, 2017.

Consolidated Results of Operations

Operating Segments

We have the following operating segments for reporting purposes: (i) Networking Platforms; (ii) Software and Software-Related Services; and (iii) Global Services. As of the first quarter of fiscal 2018, sales of our Optical Transport products are reflected within the Converged Packet Optical product line of our Networking Platforms segment for all periods presented. See Note 16 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Quarter ended April 30, 2018 compared to the quarter ended April 30, 2017

Revenue

During the second quarter of fiscal 2018, approximately 20.3% of our revenue was non-U.S. Dollar denominated, including sales in Euros, Canadian Dollars, Japanese Yen, Brazilian Reais, Emirati Dirham and British Pounds. During the second quarter of fiscal 2018, as compared to the second quarter of fiscal 2017, the U.S. Dollar fluctuated against these currencies. Consequently, our revenue reported in U.S. Dollars slightly increased by approximately $7.8 million, net of hedging, or 1.1%, as compared to the second quarter of fiscal 2017, due to fluctuations in foreign currency. The table below (in thousands, except percentage data) sets forth the changes in our operating segment revenue for the periods indicated:

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Revenue:						
Networking Platforms						
Converged Packet Optical	$527,867	72.4	$505,161	71.4	$22,706	4.5
Packet Networking	63,815	8.7	66,326	9.4	(2,511)	(3.8)
Total Networking Platforms	591,682	81.1	571,487	80.8	20,195	3.5
Software and Software-Related Services						
Software Platforms	12,544	1.7	13,143	1.9	(599)	(4.6)
Software-Related Services	26,201	3.6	24,573	3.5	1,628	6.6
Total Software and Software-Related Services	38,745	5.3	37,716	5.4	1,029	2.7
Global Services						
Maintenance Support and Training	60,904	8.3	58,241	8.2	2,663	4.6
Installation and Deployment	28,209	3.9	28,695	4.1	(486)	(1.7)
Consulting and Network Design	10,438	1.4	10,883	1.5	(445)	(4.1)
Total Global Services	99,551	13.6	97,819	13.8	1,732	1.8
Consolidated revenue	$729,978	100.0	$707,022	100.0	$22,956	3.2

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

- Networking Platforms segment revenue increased, primarily reflecting a product line sales increase of $22.7 million of our Converged Packet Optical products, partially offset by a product line sales decrease of $2.5 million of our Packet Networking products.

Converged Packet Optical sales primarily reflect sales increases of $74.5 million of our Waveserver stackable interconnect system, primarily due to increased sales to Web-scale providers, which, as we continue to diversify, represent a growing portion of our business. These increases were partially offset by sales decreases of $28.1 million of our 6500 Packet-Optical Platform and $25.1 million of our 5410/5430 Reconfigurable Switching Systems. The decrease in sales of our 6500 Packet-Optical Platform is primarily due to decreased sales to cable and multiservice operators, government customers and AT&T. The decrease in sales of our 5410/5430 Reconfigurable Switching Systems is primarily due to decreased sales to a certain communications service provider in the APAC region.

Packet Networking sales primarily reflects a sales decrease of $11.6 million of our 3000 and 5000 families of service delivery and aggregation switches, primarily due to decreased sales to AT&T, partially offset by increased sales to other communications service providers. This decrease was partially offset by a sales increase of $7.7 million of our 8700 Packetwave Platform.

- Software and Software-Related Services segment revenue slightly increased, primarily reflecting a sales increase of $1.6 million in software-related services.
- Global Services segment revenue slightly increased, primarily reflecting a sales increase of $2.7 million of our maintenance support and training services.

Our operating segments each engage in business and operations across four geographic regions: North America; Europe, Middle East and Africa ("EMEA"); Caribbean and Latin America (“CALA”); and Asia and Pacific ("APAC"). Results for North America include only activities in the U.S. and Canada. Part of our business and growth strategy is to continue to diversify our customer base and secure additional communications service provider customers outside of North America, including in high-growth geographies such as the APAC region. We believe that this is an important part of our strategy, and that it is required for continued revenue growth. The following table reflects our geographic distribution of revenue principally based on the relevant location for our delivery of products and performance of services. Our revenue, particularly when considered by geographic distribution, can fluctuate significantly and the timing of revenue recognition for large network projects, particularly outside of North America, can result in large variations in geographic revenue results in any particular quarter. The revenue increase from our EMEA region for the second quarter of fiscal 2018 was primarily driven by increased sales to communications service provider and Web-scale customers. The revenue increase from our APAC region for the second quarter of fiscal 2018 was primarily driven by increased sales in India and continued execution of our strategy to capture new market share with communications service providers in the region. The table below (in thousands, except percentage data) sets forth the changes in geographic distribution of revenue for the periods indicated:

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
North America	$431,235	59.1	$424,373	60.0	$6,862	1.6
EMEA	121,747	16.7	105,776	15.0	15,971	15.1
CALA	25,080	3.4	33,971	4.8	(8,891)	(26.2)
APAC	151,916	20.8	142,902	20.2	9,014	6.3
Total	$729,978	100.0	$707,022	100.0	$22,956	3.2

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

- North America revenue primarily reflects increases of $5.9 million within our Networking Platforms segment and $3.9 million within our Software and Software-Related Services segment, partially offset by a revenue decrease of $3.0 million within our Global Services segment.

Networking Platforms revenue primarily reflects a product line increase of $26.4 million of Converged Packet Optical sales, partially offset by a product line decrease of $20.5 million of Packet Networking sales.

The revenue increase within Converged Packet Optical sales primarily reflects an increase of $65.0 million in sales of our Waveserver stackable interconnect system, partially offset by a revenue decrease in sales of $34.1 million of our 6500 Packet-Optical Platform. The revenue increase for our Waveserver stackable interconnect system primarily reflects increased sales to Web-scale providers.

The revenue decrease within Packet Networking primarily reflects a decrease of $19.6 million in sales of our 3000 and 5000 families of service delivery and aggregation switches. Packet Networking sales primarily reflect reduced sales to AT&T.

- EMEA revenue primarily reflects increases of $10.4 million within our Networking Platforms segment and $7.5 million within our Global Services segment, partially offset by a revenue decrease of $1.9 million within our Software and Software-Related Services segment.

Networking Platforms segment revenue primarily reflects a product line increase of $12.6 million in Converged Packet Optical sales. The increase in Converged Packet Optical sales primarily reflects an increase of $6.8 million in sales from our Waveserver stackable interconnect system, primarily due to increased sales to Web-scale providers, and $3.4 million in sales of our 6500 Packet-Optical Platform which was primarily due to increased sales to communications service providers.

- CALA revenue primarily reflects decreases of $8.3 million within our Networking Platforms segment and $1.0 million within our Global Services segment. The decrease in CALA revenue primarily relates to decreased sales to a certain cable and multiservice operator in Argentina.
- APAC revenue primarily reflects an increase of $12.2 million within our Networking Platforms segment, partially offset by revenue decreases of $1.7 million within our Global Services segment and $1.5 million within our Software and Software-Related Services segment.

Networking Platforms segment revenue primarily reflects a product line increase of $19.8 million of Packet Networking sales, partially offset by a product line decrease of $7.6 million in Converged Packet Optical sales. Converged Packet Optical revenue primarily reflects a decrease of $20.2 million in sales of our 5410/5430 Reconfigurable Switching Systems primarily due to decreased sales to a certain communications service provider in India. This decrease was partially offset by a revenue increase of $10.7 million in sales of our 6500 Packet-Optical Platform to communications service providers.

Packet Networking revenue primarily reflects increases of $11.2 million in sales of our 3000 and 5000 families of service delivery and aggregation switches and $8.6 million in sales of our 8700 Packetwave Platform primarily due to increased sales to a certain communication service provider in India.

Cost of Goods Sold and Gross Profit

Product cost of goods sold consists primarily of amounts paid to third party contract manufacturers, component costs, employee-related costs and overhead, shipping and logistics costs associated with manufacturing-related operations, warranty and other contractual obligations, royalties, license fees, amortization of intangible assets, cost of excess and obsolete inventory and, when applicable, estimated losses on committed customer contracts.

Services cost of goods sold consists primarily of direct and third party costs associated with our provision of services including installation, deployment, maintenance support, consulting and training activities and, when applicable, estimated losses on committed customer contracts. The majority of these costs relate to personnel, including employee and third party contractor-related costs.

Our gross profit as a percentage of revenue, or “gross margin,” can fluctuate due to a number of factors, particularly when viewed on a quarterly basis. Our gross margin can fluctuate and be adversely impacted depending upon our revenue concentration within a particular segment, product line, geography, or customer, including our success in selling software in a particular period. Our gross margin remains highly dependent on our continued ability to drive product cost reductions relative to the price erosion that we regularly encounter in our markets. Moreover, we are often required to compete with aggressive pricing and commercial terms and, to secure business with new and existing customers, we may agree to pricing or other unfavorable commercial terms that adversely affect our gross margin. When we have success in taking share and winning new business, it can result in additional pressure on gross margin from these pricing dynamics and the early stages of these network deployments. These early stages often include an increased concentration of lower margin “common” equipment sales and installation services, with the intent to improve margin as we sell channel cards and maintenance services to customers adding capacity or services to their networks. Gross margin can be impacted by technology-based price compression and the introduction or substitution of new platforms for existing solutions that carry higher margins. Gross margin can also be impacted by changes in expense for excess and obsolete inventory and warranty obligations.

Service gross margin can be affected by the mix of customers and services, particularly the mix between deployment and maintenance services, geographic mix, and the timing and extent of any investments in internal resources to support this business.

The tables below (in thousands, except percentage data) set forth the changes in revenue, cost of goods sold, and gross profit for the periods indicated:

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Total revenue	$729,978	100.0	$707,022	100.0	$22,956	3.2
Total cost of goods sold	436,671	59.8	388,782	55.0	47,889	12.3
Gross profit	$293,307	40.2	$318,240	45.0	$(24,933)	(7.8)

* Denotes % of total revenue
** Denotes % change from 2017 to 2018

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Product revenue	$604,226	100.0	$584,630	100.0	$19,596	3.4
Product cost of goods sold	372,568	61.7	327,295	56.0	45,273	13.8
Product gross profit	$231,658	38.3	$257,335	44.0	$(25,677)	(10.0)

* Denotes % of product revenue
** Denotes % change from 2017 to 2018

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Service revenue	$125,752	100.0	$122,392	100.0	$ 3,360	2.7
Service cost of goods sold	64,103	51.0	61,487	50.2	2,616	4.3
Service gross profit	$61,649	49.0	$60,905	49.8	$ 744	1.2

* Denotes % of services revenue
** Denotes % change from 2017 to 2018

- Gross profit as a percentage of revenue reflects reduced product and services gross profit as described below. We expect to encounter fluctuations or reductions in quarterly gross margin during fiscal 2018 as a result of our strategy to leverage our technology leadership and to aggressively capture additional market share and displace competitors, particularly with communications service providers internationally. Our success in implementing this strategy may require that we agree to aggressive pricing, commercial concessions and other unfavorable terms, and result in an increased mix of revenues from early stage deployments, any or all of which may result in low or negative gross margins on a particular order or group of orders.
- Gross profit on products as a percentage of product revenue decreased primarily as a result of the share capture strategy as described above and the impact of early stages of network deployments with service provider customers, including an increased concentration of lower margin "common" equipment sales, partially offset by product cost reductions and a lower provision for inventory excess and obsolescence.
- Gross profit on services as a percentage of services revenue slightly decreased primarily due to reduced margin on deployment sales.

Operating Expense

We expect operating expense to increase in fiscal 2018 from the level reported for fiscal 2017 in order to fund our research and development initiatives.

Operating expense consists of the component elements described below.

- Research and development expense primarily consists of salaries and related employee expense (including share-based compensation expense), prototype costs relating to design, development, testing of our products, depreciation expense, and third-party consulting costs.

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- Selling and marketing expense primarily consists of salaries, commissions and related employee expense (including share-based compensation expense), and sales and marketing support expense, including travel, demonstration units, trade show expense, and third-party consulting costs.

- General and administrative expense primarily consists of salaries and related employee expense (including share-based compensation expense), and costs for third-party consulting and other services.

- Amortization of intangible assets primarily reflects the amortization of both purchased technology and the value of customer relationships derived from our acquisitions.

- Significant asset impairments and restructuring costs primarily reflect actions we have taken to better align our workforce, facilities, and operating costs with perceived market opportunities, business strategies, changes in market and business conditions and significant impairments of assets.

During the second quarter of fiscal 2018, approximately 48.0% of our operating expense was non-U.S. Dollar denominated, including expenses in Canadian Dollars, British Pounds, Indian Rupees, Euros, and Brazilian Reais. During the second quarter of fiscal 2018 as compared to the second quarter of fiscal 2017, the U.S. Dollar fluctuated against these currencies. Consequently, our operating expense reported in U.S. Dollars slightly increased by approximately $6.6 million, or 2.5%, as compared to the second quarter of fiscal 2017, due to fluctuations in foreign currency. The table below (in thousands, except percentage data) sets forth the changes in operating expense for the periods indicated:

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Research and development	$116,924	16.0	$121,623	17.2	$(4,699)	(3.9)
Selling and marketing	97,359	13.3	88,551	12.5	8,808	9.9
General and administrative	38,976	5.3	34,990	4.9	3,986	11.4
Amortization of intangible assets	3,623	0.5	10,980	1.6	(7,357)	(67.0)
Significant asset impairments and restructuring costs	4,359	0.6	4,276	0.6	83	1.9
Total operating expenses	$261,241	35.7	$260,420	36.8	$821	0.3

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

- Research and development expense was adversely affected by $2.9 million as a result of foreign exchange rates, net of hedging, primarily due to a weaker U.S. Dollar in relation to the Canadian Dollar. Including the effect of foreign exchange rates, research and development expenses decreased by $4.7 million. This decrease primarily reflects the benefit of $8.1 million in reimbursements from the ENCQOR grant. See Note 17 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report for more information regarding this grant and Ciena's expectations of a reduction in the quarterly benefit to research and development expense as compared to the second quarter of fiscal 2018. Research and development expense also reflects a decrease of $2.9 million in prototype expense. These decreases were partially offset by increases of $2.6 million in employee and compensation costs and $2.6 million in professional services.
- Selling and marketing expense was adversely affected by $3.1 million as a result of foreign exchange rates, primarily due to a weaker U.S. Dollar in relation to the Euro. Including the effect of foreign exchange rates, selling and marketing expenses increased by $8.8 million, primarily reflecting increases of $7.0 million in employee and compensation costs and $1.3 million in customer demonstration equipment.
- General and administrative expense increased by $4.0 million, primarily reflecting increases of $2.6 million of employee and compensation costs and $1.0 million of professional services and legal fees.
-

Amortization of intangible assets decreased due to certain intangible assets having reached the end of their economic lives.

- Significant asset impairments and restructuring costs reflect global workforce reductions as part of a business optimization strategy to improve gross margin, constrain operating expense, and redesign certain business processes.

Other items

The table below (in thousands, except percentage data) sets forth the changes in other items for the periods indicated:

	Quarter Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Interest and other income (loss), net	$1,296	0.2	$(2,918)	(0.4)	$ 4,214	(144.4)
Interest expense	$13,031	1.8	$13,308	1.9	$ (277)	(2.1)
Provision for income taxes	$6,475	0.9	$3,568	0.5	$ 2,907	81.5

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

- Interest and other income (loss), net primarily reflects $2.9 million in debt modification expenses related to the 2022 Term Loan in the second quarter of fiscal 2017 and a $1.7 million gain in interest income due to higher interest rates on our investments in the second quarter of fiscal 2018.
- Interest expense remained relatively unchanged.
- Provision for income taxes increased primarily due to higher U.S. federal income tax.

Six months ended April 30, 2018 compared to the six months ended April 30, 2017

Revenue

During the six months ended April 30, 2018, approximately 19.7% of our revenue was non-U.S. Dollar denominated, including sales in Euros, Canadian Dollars, Japanese Yen, Brazilian Reais, British Pounds, Emirati Dirham, Argentina Pesos, Indian Rupees and Mexican Pesos. During the six months ended April 30, 2018, as compared to the six months ended April 30, 2017, the U.S. Dollar fluctuated against these currencies. Consequently, our revenue reported in U.S. Dollars slightly increased by approximately $11.4 million, net of hedging, or 0.8%, as compared to the six months ended April 30, 2017, due to fluctuations in foreign currency. The table below (in thousands, except percentage data) sets forth the changes in our operating segment revenue for the periods indicated:

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Revenue:						
Networking Platforms						
Converged Packet Optical	$955,297	69.4	$922,911	69.5	$32,386	3.5
Packet Networking	132,418	9.6	138,520	10.4	(6,102)	(4.4)
Total Networking Platforms	1,087,715	79.0	1,061,431	79.9	26,284	2.5
Software and Software-Related Services						
Software Platforms	42,120	3.1	30,192	2.3	11,928	39.5
Software-Related Services	50,112	3.6	46,904	3.5	3,208	6.8
Total Software and Software-Related Services	92,232	6.7	77,096	5.8	15,136	19.6
Global Services						
Maintenance Support and Training	116,862	8.5	113,231	8.5	3,631	3.2
Installation and Deployment	58,225	4.2	56,614	4.3	1,611	2.8
Consulting and Network Design	21,079	1.6	20,147	1.5	932	4.6
Total Global Services	196,166	14.3	189,992	14.3	6,174	3.2
Consolidated revenue	$1,376,113	100.0	$1,328,519	100.0	$47,594	3.6

* Denotes % of total revenue
** Denotes % change from 2017 to 2018

- Networking Platforms segment revenue increased, primarily reflecting a product line sales increase of $32.4 million of our Converged Packet Optical products partially offset by a product line decrease of $6.1 million of our Packet Networking products.
Converged Packet Optical sales primarily reflect a sales increase of $124.8 million of our Waveserver stackable interconnect system, primarily due to increased sales to Web-scale providers, which, as we continue to diversify, represent a growing portion of our business. This increase was partially offset by sales decreases of $61.5 million of our 6500 Packet-Optical Platform, $16.2 million of our 5410/5430 Reconfigurable Switching Systems and $10.0 million of our Z-Series Packet-Optical Platform. The decreases in sales of our 6500 Packet-Optical Platform are primarily due to decreased sales to cable and multiservice operators, AT&T and government customers.
Packet Networking sales primarily reflect a sales decrease of $17.0 million of our 3000 and 5000 families of service delivery and aggregation switches, partially offset by a sales increase of $7.9 million of our 8700 Packetwave Platform.
- Software and Software-Related Services segment revenue increased, primarily reflecting sales increases of $11.9 million of our software platforms and $3.2 million in software-related services platforms. The increase in software platform sales primarily reflects increases of $13.9 million in sales of our Blue Planet software platform and advanced software applications.
- Global Services segment revenue increased, primarily reflecting sales increases of $3.6 million of our maintenance support and training services, $1.6 million of our installation and deployment services and $0.9 million of our consulting and network design services.

The following table reflects our geographic distribution of revenue principally based on the relevant location for our delivery of products and performance of services. Our revenue, particularly when considered by geographic distribution, can fluctuate significantly and the timing of revenue recognition for large network projects, particularly outside of North America, can result in large variations in geographic revenue results in any particular quarter. The revenue increase from our APAC

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region for the six months ended April 30, 2018 was primarily driven by increased sales in India and Japan and our continued execution of our strategy to capture new market share with communications service providers in the region. The revenue increase from our EMEA region for the six months ended April 30, 2018 was primarily driven by increased sales to communications service provider and Web-scale customers. The table below (in thousands, except percentage data) sets forth the changes in geographic distribution of revenue for the periods indicated:

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
North America	$834,144	60.6	$830,301	62.5	$3,843	0.5
EMEA	219,581	16.0	197,319	14.9	22,262	11.3
CALA	59,643	4.3	69,117	5.2	(9,474)	(13.7)
APAC	262,745	19.1	231,782	17.4	30,963	13.4
Total	$1,376,113	100.0	$1,328,519	100.0	$47,594	3.6

* Denotes % of total revenue
** Denotes % change from 2017 to 2018

- North America revenue primarily reflects an increase of $17.3 million within our Software and Software-Related Services segment, partially offset by revenue decreases of $11.0 million within our Networking Platforms segment and $2.4 million within our Global Services segment.

Networking Platforms revenue primarily reflects a product line decrease of $25.9 million of Packet Networking sales, partially offset by a product line increase of $14.9 million of Converged Packet Optical sales.

The revenue increase within Converged Packet Optical sales primarily reflects an increase of $107.5 million in sales of our Waveserver stackable interconnect system, partially offset by decreases in sales of $73.8 million of our 6500 Packet-Optical Platform, $9.4 million of our 5410/5430 Reconfigurable Switching Systems and $7.5 million of our Z-Series Packet-Optical Platform. The revenue increase for our Waveserver stackable interconnect system primarily reflects increased sales to Web-scale providers.

The revenue decrease within Packet Networking primarily reflects a decrease of $25.0 million in sales of our 3000 and 5000 families of service delivery and aggregation switches. Packet Networking sales primarily reflect reduced sales to AT&T.

- EMEA revenue primarily reflects increases of $12.3 million within our Networking Platforms segment and $12.0 million within our Global Services segment, partially offset by a revenue decrease of $2.0 million within our Software and Software-Related Services segment.

Networking Platforms segment revenue primarily reflects a product line increase of $16.3 million in Converged Packet Optical sales. The increase in Converged Packet Optical sales primarily reflects an increase of $13.4 million in sales from our Waveserver stackable interconnect system to Web-scale providers.

Global Services segment revenue primarily reflects increases of $6.2 million for our installation and deployment services and $4.8 million for our maintenance and training support services. These increases reflect increased sales to communications service providers.

- CALA revenue primarily reflects decreases of $8.0 million within our Networking Platforms segment and $2.1 million within our Global Services segment. The decrease in CALA revenue primarily relates to decreased sales to a certain cable and multiservice operator in Argentina and certain communications service providers in Mexico.
- APAC revenue primarily reflects an increase of $33.0 million within our Networking Platforms segment, partially offset by a revenue decrease of $1.3 million within our Global Services segment.

Networking Platforms segment revenue primarily reflects product line increases of $23.3 million of Packet Networking sales and $9.7 million in Converged Packet Optical sales.

Converged Packet Optical revenue primarily reflects increases of $16.4 million in sales of our 6500 Packet-Optical Platform and $3.9 million in sales of our Waveserver stackable interconnect system, both reflecting increased sales to communications service providers. These increases were partially

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offset by a revenue decrease of $7.6 million in sales of our 5410/5430 Reconfigurable Switching Systems primarily due to decreased sales to certain communications service providers.

Packet Networking revenue primarily reflects increases of $13.0 million in sales of our 3000 and 5000 families of service delivery and aggregation switches and $9.9 million in sales of our 8700 Packetwave Platform primarily due to increased sales to a certain communication service provider in India.

Cost of Goods Sold and Gross Profit

The tables below (in thousands, except percentage data) set forth the changes in revenue, cost of goods sold and gross profit for the periods indicated:

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Total revenue	$1,376,113	100.0	$1,328,519	100.0	$47,594	3.6
Total cost of goods sold	811,041	58.9	736,494	55.4	74,547	10.1
Gross profit	$565,072	41.1	$592,025	44.6	$(26,953)	(4.6)

* Denotes % of total revenue
** Denotes % change from 2017 to 2018

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Product revenue	$1,129,835	100.0	$1,091,623	100.0	$38,212	3.5
Product cost of goods sold	685,688	60.7	614,106	56.3	71,582	11.7
Product gross profit	$444,147	39.3	$477,517	43.7	$(33,370)	(7.0)

* Denotes % of product revenue
** Denotes % change from 2017 to 2018

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Service revenue	$246,278	100.0	$236,896	100.0	$ 9,382	4.0
Service cost of goods sold	125,353	50.9	122,388	51.7	2,965	2.4
Service gross profit	$120,925	49.1	$114,508	48.3	$ 6,417	5.6

* Denotes % of services revenue
** Denotes % change from 2017 to 2018

- Gross profit as a percentage of revenue reflects reduced product gross profit partially offset by improved services gross profit. We expect to encounter fluctuations or reductions in quarterly gross margin during fiscal 2018 as a result of our strategy to leverage our technology leadership and to aggressively capture additional market share and displace competitors, particularly with communications service providers internationally. Our success in implementing this strategy may require that we agree to aggressive pricing, commercial concessions and other unfavorable terms, and result in an increased mix of revenues from early stage deployments, any or all of which may result in low or negative gross margins on a particular order or group of orders.
- Gross profit on products as a percentage of product revenue decreased, primarily as a result of the share capture strategy as described above and the impact of early stages of international network deployments with communications service provider customers, including an increased concentration of lower margin “common” equipment sales, partially offset by product cost reductions and increased software platform sales.

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- Gross profit on services as a percentage of services revenue increased, primarily due to sales of higher margin maintenance support services.

Operating Expense

During the first six months of fiscal 2018, approximately 50.7% of our operating expense was non-U.S. Dollar denominated, including Canadian Dollars, British Pounds, Euros, Indian Rupees and Australian Dollars. During the first six months of fiscal 2018 as compared to the first six months of fiscal 2017, the U.S. Dollar fluctuated against these currencies. Consequently, our operating expense reported in U.S. Dollars slightly increased by approximately $12.8 million, or 2.5%, as compared to the first six months of fiscal 2017, due to fluctuations in foreign currency. The table below (in thousands, except percentage data) sets forth the changes in operating expense for the periods indicated:

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Research and development	$235,448	17.1	$238,492	18.0	$(3,044)	(1.3)
Selling and marketing	185,874	13.5	173,553	13.1	12,321	7.1
General and administrative	77,382	5.6	70,854	5.3	6,528	9.2
Amortization of intangible assets	7,246	0.5	25,531	1.9	(18,285)	(71.6)
Significant asset impairments and restructuring costs	10,320	0.7	6,671	0.5	3,649	54.7
Total operating expenses	$516,270	37.4	$515,101	38.8	$1,169	0.2

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

- Research and development expense was adversely affected by $6.3 million as a result of foreign exchange rates, net of hedging, primarily due to a weaker U.S. Dollar in relation to the Canadian Dollar. Including the effect of foreign exchange rates, research and development expenses decreased by $3.0 million. This decrease primarily reflects a benefit of $8.1 million for the ENCQOR grant reimbursement as discussed above and a decrease of $2.1 million in prototype expense. These decreases were partially offset by increases of $5.8 million in employee and compensation costs and $1.6 million in professional services.
- Selling and marketing expense was adversely affected by $5.5 million as a result of foreign exchange rates, primarily due to a weaker U.S. Dollar in relation to the Euro. Including the effect of foreign exchange rates, sales and marketing expense increased by $12.3 million, primarily reflecting increases of $8.8 million in employee and compensation costs, $1.3 million in selling and marketing costs, $1.3 million in travel and entertainment expenses and $1.0 million in customer demonstration equipment.
- General and administrative expense increased by $6.5 million, primarily reflecting increases of $2.7 million in employee and compensation costs and $2.9 million for professional services and legal fees.
- Amortization of intangible assets decreased due to certain intangible assets having reached the end of their economic lives.
- Significant asset impairments and restructuring costs reflect global workforce reductions as part of a business optimization strategy to improve gross margin, constrain operating expense, and redesign certain business processes.

Other items

The table below (in thousands, except percentage data) sets forth the changes in other items for the periods indicated:

	Six Months Ended April 30,				Increase	
	2018	%*	2017	%*	(decrease)	%**
Interest and other income (loss), net	$2,871	0.2	$(2,548)	(0.2)	$5,419	212.7
Interest expense	$26,765	1.9	$28,511	2.1	$(1,746)	(6.1)
Provision for income taxes	$484,415	35.2	$3,978	0.3	$480,437	n/a

* Denotes % of total revenue

** Denotes % change from 2017 to 2018

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n/a Not meaningful

- Interest and other income (loss), net primarily reflects a $2.9 million gain in interest income due to higher interest rates on our investments in the second quarter of fiscal 2018 and $2.9 million in debt modification expenses related to the 2022 Term Loan in the second quarter of fiscal 2017.
- Interest expense decreased primarily due to a reduction in our aggregate outstanding debt due to the refinancing of our term loans during the second quarter of fiscal 2017 and the maturity of our outstanding 0.875% Convertible Senior Notes during the third quarter of fiscal 2017.
- Provision for income taxes increased primarily due to the impact of significant additional tax expense resulting from the enactment of the Tax Act and reflects $431.3 million for the remeasurement of our net deferred tax assets and a $45.6 million charge related to a transition tax on accumulated historical foreign earnings and their deemed repatriation to the U.S. For additional information, see Note 5 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Segment Profit

The table below (in thousands, except percentage data) sets forth the changes in our segment profit for the respective periods:

	Quarter Ended April 30,			
	2018	2017	Increase (decrease)	%*
Segment profit:				
Networking Platforms	$126,823	$150,464	$(23,641)	(15.7)
Software and Software-Related Services	$8,276	$4,551	$3,725	81.9
Global Services	$41,284	$41,602	$(318)	(0.8)

* Denotes % change from 2017 to 2018

- Networking Platforms segment profit decreased, primarily due to reduced gross margin as described above, partially offset by higher sales volume.
- Software and Software-Related Services segment profit increased, primarily due to lower research and development costs.
- Global Services segment profit remained relatively unchanged.

	Six Months Ended April 30,			
	2018	2017	Increase (decrease)	%*
Segment profit:				
Networking Platforms	$215,392	$264,210	$(48,818)	(18.5)
Software and Software-Related Services	$31,911	$12,252	$19,659	160.5
Global Services	$82,321	$77,071	$5,250	6.8

* Denotes % change from 2017 to 2018

- Networking Platforms segment profit decreased, primarily due to reduced gross margin as described above, and increased research and development costs, partially offset by higher sales volume.
- Software and Software-Related Services segment profit increased, primarily due to higher sales volume, as described above, and lower research and development costs.

- Global Services segment profit increased, primarily due to increased sales of higher margin maintenance support services.

Liquidity and Capital Resources
For the six months ended April 30, 2018, we generated $73.1 million in cash to fund our operating needs, as our net loss (adjusted for non-cash charges) of $139.8 million exceeded our working capital requirements of $66.7 million. Our net loss (adjusted for non-cash charges) reflects a non-cash tax provision of $481.4 million primarily related to the enactment of the Tax Act. For additional information on the non-cash tax provision, see Note 5 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report. For additional details on our cash from operations, see the discussion below entitled “Cash from Operations.”
Cash, cash equivalents and investments increased by $10.1 million during the first six months of fiscal 2018. In addition to the cash from operations mentioned above, proceeds from issuance of equity under our employee stock purchase plans provided $11.8 million in cash during the period. These provisions were sufficient to fund our investing activities for capital expenditures totaling $31.9 million and our other financing activities, including our new stock repurchase program described below and in Note 14 and Note 18 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report, which totaled $38.0 million in the period.

	April 30, 2018	October 31, 2017	Increase (decrease)
Cash and cash equivalents	$652,096	$ 640,513	$ 11,583
Short-term investments in marketable debt securities	268,584	279,133	(10,549)
Long-term investments in marketable debt securities	58,895	49,783	9,112
Total cash and cash equivalents and investments in marketable debt securities	$979,575	$ 969,429	$ 10,146

Principal Sources of Liquidity. Our principal sources of liquidity on hand include our cash, cash equivalents and investments, which as of April 30, 2018 totaled $979.6 million, as well as the senior secured asset-backed revolving credit facility to which we and certain of our subsidiaries are parties (the "ABL Credit Facility"). The ABL Credit Facility provides for a total commitment of $250 million with a maturity date of December 31, 2020. We principally use the ABL Credit Facility to support the issuance of letters of credit that arise in the ordinary course of our business and thereby to reduce our use of cash required to collateralize these instruments. As of April 30, 2018, letters of credit totaling $61.4 million were collateralized by our ABL Credit Facility. There were no borrowings outstanding under the ABL Credit Facility as of April 30, 2018.
Foreign Liquidity. The amount of cash, cash equivalents, and short-term investments held by our foreign subsidiaries was $56.9 million as of April 30, 2018. Our accumulated historical foreign earnings are generally held in either cash or short-term intercompany receivables, or have been used to fund investments in equipment, building, furniture and fixtures, or other assets and liabilities of our foreign operations. We currently intend to reinvest indefinitely our foreign earnings, however, we intend to study further the changes resulting from the enactment of the Tax Act, the costs of repatriation of such foreign earnings, and the current and future cash needs of our foreign operations to determine whether there is an opportunity to repatriate these earnings in the future on a tax-efficient basis. If we determine to repatriate these accumulated historical foreign earnings, the provisional amount of unrecognized deferred income tax liability related to foreign withholding taxes would be approximately $24.0 million. See Note 5 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.
Intent to Cash Settle New 2018 Convertible Notes. Our $350 million in aggregate principal amount outstanding in 3.75% Convertible Senior Notes will mature on October 15, 2018. As more fully described in Note 12 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report, following the settlement of an exchange offer on August 2, 2017, approximately $288.7 million in aggregate principal amount at maturity of Original Notes were exchanged for New Notes, which provide us with the option, at our election, to settle conversions for cash, shares of our common stock, or a combination of cash and shares. It is our current intent that upon any conversion of the New Notes we will settle the principal amount thereof in cash.
Stock Repurchase Authorization. On December 7, 2017, we announced that our Board of Directors authorized a program to repurchase up to $300 million of our outstanding common stock through the end of fiscal 2020. The amount and timing of repurchases are subject to a variety of factors including liquidity, cash flow, stock price, and general business and market conditions. The program may be modified, suspended, or discontinued at any time. As of

June 4, 2018 an aggregate of $245.5 million of authorized funds remained under this repurchase program. For additional information, including our repurchase activities under the program, see Note 14 and Note 18 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report and Item 2 of Part II of this report.

Liquidity Position. We regularly evaluate our liquidity position, debt obligations, and anticipated cash needs to fund our operating or investment plans and may consider capital raising and other market opportunities that may be available to us. We regularly evaluate alternatives to manage our capital structure and reduce our debt and may continue to opportunistically repurchase our outstanding convertible notes.

Based on past performance and current expectations, we believe that cash from operations, cash, cash equivalents, investments, and other sources of liquidity, including our ABL Credit Facility, will satisfy our working capital needs, capital expenditures, and other liquidity requirements associated with our operations, including the settlement of the principal amount of the New Notes in cash upon any conversions prior to maturity, and the repayment at maturity of the $350 million in aggregate principal remaining outstanding on our 3.75% convertible senior notes due October 15, 2018, through at least the next 12 months.

Cash from Operations

The following sections set forth the components of our $73.1 million of cash generated from operating activities during the first six months of fiscal 2018:

Net loss (adjusted for non-cash charges)

The following table sets forth our net loss (adjusted for non-cash charges) during the period (in thousands):

	Six months ended April 30, 2018
Net loss	$(459,507)
Adjustments for non-cash charges:	
Depreciation of equipment, building, furniture and fixtures, and amortization of leasehold improvements	41,400
Share-based compensation costs	26,559
Amortization of intangible assets	11,824
Deferred tax provision	481,401
Provision for inventory excess and obsolescence	14,977
Provision for warranty	10,565
Other	12,645
Net loss (adjusted for non-cash charges)	$139,864

Working Capital

We used $66.7 million of cash for working capital during the period. The following tables set forth the major components of the cash used in working capital (in thousands):

	Six months ended April 30, 2018
Cash used in accounts receivable	$(28,055)
Cash provided by inventories	20,420
Cash provided by prepaid expenses and other	2,623
Cash used in accounts payable, accruals and other obligations	(55,986)
Cash used in deferred revenue	(5,736)
Total cash used for working capital	$(66,734)

As compared to the end of fiscal 2017:

- The $28.1 million of cash used by accounts receivable during the first six months of fiscal 2018 reflects increased sales volume at the end of the second quarter of fiscal 2018;
- The $20.4 million of cash provided by inventory during the first six months of fiscal 2018 primarily reflects improved manufacturing efficiencies to meet customer delivery schedules;
- The $2.6 million of cash provided by prepaid expense and other during the first six months of fiscal 2018 primarily reflects lower prepaid value added taxes partially offset by the ENQCOR grant reimbursement receivable which was

recorded in the second quarter of fiscal 2018. For more information on the ENQCOR grant, see Note 17 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report;

- The $56.0 million of cash used in accounts payable, accruals and other obligations during the first six months of fiscal 2018 primarily reflects the timing of bonus payments to employees under our annual cash incentive compensation plan and payments for U.S. federal income taxes; and
- The $5.7 million of cash used in deferred revenue during the first six months of fiscal 2018 represents a decrease in advanced payments received from customers prior to revenue recognition.

Our days sales outstanding (DSOs) for the first six months of fiscal 2018 were 85 days, and our inventory turns for the first six months of fiscal 2018 were 5.9.

Cash Paid for Interest

The following tables set forth the cash paid for interest during the period (in thousands):

	Six months ended April 30, 2018
3.75% Convertible Senior Notes due October 15, 2018 (Original)(1)	$ 1,149
3.75% Convertible Senior Notes due October 15, 2018 (New)(1)	5,414
4.0% Convertible Senior Notes due December 15, 2020(2)	3,750
Term Loan due January 30, 2022 (3)	8,015
Interest rate swaps(4)	523
ABL Credit Facility(5)	778
Capital leases	2,214
Cash paid during period	$ 21,843

(1) Interest on our outstanding 3.75% Convertible Senior Notes due October 15, 2018 (Original) and our outstanding 3.75% Convertible Senior Notes due October 15, 2018 (New) is payable on April 15 and October 15 of each year.

(2) Interest on our outstanding 4.0% Convertible Senior Notes due December 15, 2020 is payable on June 15 and December 15 of each year.

(3) Interest on the Term Loan due January 30, 2022 (the "2022 Term Loan") is payable periodically based on the underlying market index rate selected for borrowing. The 2022 Term Loan bears interest at LIBOR plus a spread of 2.5% subject to a minimum LIBOR rate of 0.75%. As of the end of the second quarter of fiscal 2018, the interest rate on the 2022 Term Loan was 4.40%.

(4) Our interest rate swaps fix 98%, 82% and 77% of the principal value of the 2022 Term Loan from February 2017 through July 2018, July 2018 through June 2020 and June 2020 through January 2021, respectively. The fixed rate on the amounts hedged during the periods described above will be 4.25%, 4.25% and 4.75%, respectively.

(5) During the first six months of fiscal 2018, we utilized the ABL Credit Facility to collateralize certain standby letters of credit and paid $0.8 million in commitment fees, interest expense and other administrative charges relating to our ABL Credit Facility.

Contractual Obligations

There have been no material changes to our contractual obligations since October 31, 2017. For a summary of our contractual obligations, see Item 7 of Part II of our annual report on Form 10-K for the fiscal year ended October 31, 2017.

Off-Balance Sheet Arrangements

We do not engage in any off-balance sheet financing arrangements. In particular, we do not have any equity interests in so-called limited purpose entities, which include special purpose entities (SPEs) and structured finance entities.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements requires that we make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expense, and related disclosure of contingent assets and liabilities. By their nature, these estimates and judgments are subject to an inherent degree of uncertainty. On an ongoing basis, we reevaluate our estimates, including those related to share-based compensation, bad debts, inventories, intangible and other long-lived assets, goodwill, income taxes, warranty obligations, restructuring, derivatives and hedging, and contingencies and litigation. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Among other things, these estimates form the basis for judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. To the extent that there are material differences between our estimates and actual results, our consolidated financial statements will be affected.

Our critical accounting policies and estimates have not changed materially since October 31, 2017, except for items listed below. For a discussion of our critical accounting policies and estimates, see Item 7 of Part II of our annual report on Form 10-K for the fiscal year ended October 31, 2017 (Management's Discussion and Analysis of Financial Condition and Results of Operations).

Deferred Tax Assets

Pursuant to Accounting Standards Codification (“ASC”) Topic 740, Income Taxes, we maintain a valuation allowance for a deferred tax asset when it is deemed to be more likely than not that some or all of the deferred tax asset will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income (including the reversals of deferred tax liabilities) during the periods in which those deferred tax assets will become deductible. In evaluating whether a valuation allowance is required under such rules, we consider all available positive and negative evidence, including prior operating results, the nature and reason for any losses, our forecast of future taxable income, utilization of tax planning strategies, and the dates on which any deferred tax assets are expected to expire. These assumptions and estimates require a significant amount of judgment and are made based on current and projected circumstances and conditions.

The valuation allowance balance at April 30, 2018 was $147.0 million and the corresponding net deferred tax asset was $734.8 million. We will continue to evaluate future financial performance to determine whether such performance is both sustained and significant enough to provide sufficient evidence to support reversal of all or a portion of the remaining valuation allowance. The value of our net deferred tax asset may be subject to change in the future, depending upon our generation or projections of future taxable income, as well as changes in tax policy or our tax planning strategy. For example, the recently enacted Tax Act required us to write down our net deferred tax asset by approximately $431.3 million. As this is a provisional estimate, it may be subject to change based upon availability of additional guidance and our continued assessment of the impact of the Tax Act on our business. As these amounts are finalized throughout fiscal 2018, our operating results may be materially adversely affected by a non-cash charge to reflect the change in value of these assets. For further discussion, see Note 5 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Effects of Recent Accounting Pronouncements

See Note 2 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report for information relating to our discussion of the effects of recent accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our exposure to market risk has not changed materially since October 31, 2017. For a discussion of quantitative and qualitative disclosures about market risk, see Item 7A of Part II of our annual report on Form 10-K for the fiscal year ended October 31, 2017 (Quantitative and Qualitative Disclosures About Market Risk).

Item 4. Controls and Procedures

Disclosure Controls and Procedures

As of the end of the period covered by this report, we carried out an evaluation under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended). Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended) during the most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

The information set forth under the headings “Litigation” and “Internal Investigations” in Note 17, Commitments and Contingencies, to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report, is incorporated herein by reference.

Item 1A. Risk Factors

Investing in our securities involves a high degree of risk. Before investing in our securities, you should consider carefully the following risk factors in addition to the other information contained in this report, in our annual report on Form 10-K for the fiscal year ended October 31, 2017, including the risk factors identified in Item 1A of Part I thereof (Risk Factors), and in our quarterly report on Form 10-Q for the fiscal quarter ended January 31, 2018. This report contains forward-looking statements that involve risks and uncertainties. See “Cautionary Note Regarding Forward-Looking Statements” in "Management's Discussion and Analysis" above. Our actual results could differ materially from those contained in the forward-looking statements. Any of the risks discussed below, elsewhere in this report, in our annual report on Form 10-K for the fiscal year ended October 31, 2017, in our quarterly report for the fiscal quarter ended January 31, 2018, and other risks we have not anticipated or discussed, could have a material adverse impact on our business, financial condition or results of operations.

A small number of customers account for a significant portion of our revenue. The loss of any of these customers or a significant reduction in their spending could have a material adverse effect on our business and results of operations.

While our customer base has diversified in recent years, a significant portion of our revenue remains concentrated among a small number of customers. Historically, our largest customers by revenue have principally consisted of a number of large communications service providers. For example, AT&T and Verizon accounted for approximately 16.0% and 10.3% of fiscal 2017 revenue, respectively, and our ten largest customers contributed 55.6% of fiscal 2017 revenue. In addition, as we have diversified our customer base in recent years to include network operators in additional customer segments and geographies, certain Web-scale providers are now among our largest customers by revenue. Consequently, our financial results are closely correlated with the spending of a relatively small number of customers. A number of our customers, including AT&T, with whom we experienced a decline in annual revenue during fiscal 2017, have announced various procurement initiatives or efforts to reduce capital expenditures on network infrastructure in future periods that may adversely affect our results of operations. We do not have long-term contracts that obligate our customers to purchase any minimum or guaranteed volumes, and we conduct sales under purchase orders for which our customers often have the right to modify or cancel. We must regularly compete for and win business with existing customers. Moreover, Web-scale providers tend to operate on shorter procurement cycles than communications service providers, which can require us to compete to re-win business with these customers more frequently than required with other customers segments. As such, there is no assurance that our customer revenue levels in a particular period can be achieved in future periods. Customer spending levels can be unpredictable and our sales to any customer could significantly decrease or cease at any time. Our business and results of operations would be materially adversely impacted by the loss of a large customer, or reductions in spending or capital expenditure budgets by our largest customers.

Because a number of our largest customers are communications service providers, our business and results of operations can be significantly affected by market, industry or competitive dynamics adversely affecting this segment. Our communications service provider customers continue to face a rapidly shifting competitive landscape as cloud service operators, "over-the-top" (OTT) providers and other content providers challenge their traditional business models and network infrastructures. Moreover, a number of our communications service provider and cable operator customers, including AT&T, Verizon and Centurylink, have either recently announced significant acquisition transactions or are in the process of significant related integration activities. Such transactions have in the past, and may in the future, result in spending delays or deferrals, or changes in preferred vendors, as the integration of combined network infrastructures proceeds and procurement strategies are determined. Our business and results of operations could be materially adversely affected by these factors and other market, industry or competitive dynamics adversely impacting our customer segments.

Our reliance upon third-party component suppliers, including sole and limited source suppliers, exposes our business to additional risk and could limit our sales, increase our costs and harm our customer relationships.

We maintain a global sourcing strategy and depend on third-party suppliers in international markets for support in our product design and development, and in the sourcing of key product components and subsystems. Our products include optical and electronic components for which reliable, high-volume supply is often available only from sole or limited sources. We do not have any guarantees of supply from our third-party suppliers, and in certain cases we are relying upon temporary commercial arrangements or standard purchase orders. As a result, there is no assurance that we will be able to secure the components or subsystems that we require, in sufficient quantity and quality, and on reasonable terms. The loss of a source of supply, or lack of sufficient availability of key components, could require that we locate an alternate source or redesign our products, either of which could result in business interruption and increased costs and could negatively affect our product gross margin and results of operations. There are a number of significant technology trends or developments underway or emerging, including the Internet of Things, autonomous vehicles, and mobile communication adoption, that can be expected to result in continued market demand for key raw materials or components. Increases in market demand or scarcity of resources or manufacturing capability have resulted, and may in the future result, in shortages in availability of important components for our solutions, product allocation challenges, deployment delays and increased lead times and delivery cycles.

We are exposed to risks relating to unfavorable economic conditions and a wide range of challenges affecting the businesses and results of operations of our component suppliers. These challenges can affect their material costs, sales, liquidity levels, ability to continue investing in their businesses, ability to import or export goods, ability to meet development commitments and manufacturing capability. For example, recent geopolitical events involving the governments of the United States and China – including potential tariffs and trade restrictions by both countries, China’s announcement of a five-year plan to invest in a domestic optical components industry, and the U.S. Commerce Department’s significant trade restriction on a key Chinese customer of certain of our component suppliers – may have an adverse impact on certain of our component suppliers in one or more of these respects. These and other industry, market and regulatory disruptions and challenges affecting our suppliers could expose our business to increased costs, loss or lack of supply, or discontinuation of components that can result in lost revenue, additional product costs, increased lead times and deployment delays that could harm our business and customer relationships.

We have experienced and may experience in the future consolidation among suppliers of our components. Consolidation in the optical components and semiconductor industry can result in a reduction in the number of suppliers available to us, which can negatively impact our ability to access components or the price we have to pay for such components. Moreover, our access to necessary components could be adversely impacted by evolving competitive landscapes, converging solutions offerings and competition from component vendors, including those in our supply chain, that develop competing networking products, including offerings based on off-the-shelf or commoditized hardware technology, referred to as “white box” hardware.

Our business and results of operations would be negatively affected if we were to experience any significant disruption or difficulties with key suppliers affecting the price, quality, availability or timely delivery of required components.

Our new distribution channel for our WaveLogic coherent technology could be unprofitable, expose us to increased or new forms of competition, or adversely affect our systems business and competitive position.

Our new distribution relationships with Lumentum, NeoPhotonics and Oclaro present a number of risks for our business as we make available and distribute key elements of our WaveLogic coherent optical technology as a component. In order to design and manufacture the module to be sold by our partners, we will be required to incur additional research and development costs. This form of distribution channel for an existing system vendor is new in our industry and unproven in the market. The success of these distribution relationships will depend on, among other things, our ability to adapt to this new component market and commercial model and the ability of our partners to manufacture, market and sell optical modules containing our components in the merchant market. For example, recent geopolitical events involving the governments of the United States and China – including potential tariffs and trade restrictions by both countries, China's announcement of a five-year plan to invest in a domestic optical components industry, and the U.S. Commerce Department's significant trade restriction on a key Chinese customer of certain of our partners – may adversely impact our ability to access all or a portion of the China market with this distribution channel for modules containing our components. There is no guarantee that the modules containing our components will be able to be sold in all markets, that they will achieve market acceptance or that the timing of market adoption will be as predicted. As a result, it is possible that our research and development investments in this new distribution channel will be unprofitable.

Lumentum, NeoPhotonics and Oclaro each have the unrestricted ability to sell such modules to end users, including our customers, our competitors, and other vendors or network operators that plan to build or use "white box" hardware. Making our critical technology available in this manner could adversely impact the sale of products in our existing systems business. For example, our customers may choose to adopt disaggregated consumption models or third-party solutions using these Ciena-designed optical modules instead of purchasing systems-based solutions from us. Alternatively, we may encounter situations where we are competing for opportunities in the market directly against a system from one of our competitors that incorporates Ciena-designed modules. In addition, making this key technology available and enabling third-party partner sales of Ciena-designed modules may adversely affect our competitive position and increase the risk that third parties misappropriate or attempt to use our technology or related intellectual property without our authorization. These and other risks or unanticipated liabilities or costs associated with our new distribution strategy could harm our reputation and adversely affect our business and our results of operations.

The final impacts of the Tax Cuts and Jobs Act could be materially different from our current estimates.

On December 22, 2017, the Tax Cuts and Jobs Act (the "Tax Act") was signed into law. The Tax Act introduced significant changes to U.S. federal corporate tax law. We continue to assess and analyze the impact of the Tax Act on our business and our company. Accordingly, some of the income tax effects reflected in our unaudited Condensed Consolidated Financial Statements are provisional amounts and are subject to adjustment in the future. The estimated impact of the new law is based on management's current knowledge and assumptions, and the impacts we ultimately recognize could be materially different from current estimates based upon our further analysis of the Tax Act. In addition, the Tax Act remains subject to further guidance and interpretations from the U.S. federal and state governments and regulatory organizations, such as the Department of the Treasury and the Internal Revenue Service, which could also change the provisional tax liability or the accounting treatment of the provisional tax liability. As such, the full impact of the Tax Act in fiscal 2018 or in future periods cannot be predicted at this time, and there can be no assurance that the impact of the Tax Act will not adversely affect our results of operations.

We may be required to write down the value of certain deferred tax assets, which would adversely affect our operating results.

We have a number of significant assets on our balance sheet as of April 30, 2018 and the value of these assets can be adversely impacted by factors related to our business and operating performance, as well as factors outside of our control. As of April 30, 2018, our balance sheet includes a $734.8 million net deferred tax asset. The value of our net deferred tax assets can be significantly impacted by changes in tax policy or our tax planning strategy. For example, the recently enacted Tax Act required us to write down our net deferred tax asset by approximately $431.3 million. As this is a provisional estimate, it may be subject to change based upon our continued assessment of the Tax Act on our business. If any additional write downs are required, our operating results may be materially adversely affected.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

The following table provides a summary of repurchases of our common stock during the second quarter of fiscal 2018:

Period	Total Number of Shares Purchased (1)	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in Thousands)
February 1, 2018 to February 28, 2018	486,952	$ 22.27	486,952	$ 283,399
March 1, 2018 to March 31, 2018	363,917	$ 25.56	363,917	$ 274,096
April 1, 2018 to April 30, 2018	513,877	$ 25.77	513,877	$ 260,853
Total	1,364,746	$ 24.47	1,364,746	

(1) On December 7, 2017, we announced that our Board of Directors authorized a program to repurchase up to $300 million of our common stock through the end of fiscal 2020. Shares reported in this table were repurchased under this program. The amount and timing of repurchases are subject to a variety of factors including liquidity, cash flow, stock price, and general business and market conditions. The program may be modified, suspended, or discontinued at any time.

Item 3. Defaults Upon Senior Securities
Not applicable.

Item 4. Mine Safety Disclosures
Not applicable.

Item 5. Other Information
Not applicable.

Item 6. Exhibits

31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

	Ciena Corporation	
Date: June 6, 2018	By:	/s/ Gary B. Smith Gary B. Smith President, Chief Executive Officer and Director (Duly Authorized Officer)
Date: June 6, 2018	By:	/s/ James E. Moylan, Jr. James E. Moylan, Jr. Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)