UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-Q

(Mark one)

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

For the quarterly period ended April 29, 2023

OR

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

For the transition period from__________to__________

Commission File Number: **001-36250**

Ciena Corporation
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation)	**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)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**CIEN**	**New York Stock Exchange**

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

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

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

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

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

Class	Outstanding as of June 2, 2023
Common Stock, par value $0.01 per share	149,498,607

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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		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Revenue:				
Products	$ 935,330	$ 759,948	$ 1,813,045	$ 1,424,955
Services	197,325	189,279	376,131	368,715
Total revenue	1,132,655	949,227	2,189,176	1,793,670
Cost of goods sold:				
Products	541,883	452,057	1,042,220	824,622
Services	103,089	95,389	203,327	183,080
Total cost of goods sold	644,972	547,446	1,245,547	1,007,702
Gross profit	487,683	401,781	943,629	785,968
Operating expenses:				
Research and development	189,993	159,324	371,723	307,733
Selling and marketing	125,083	119,939	248,890	238,820
General and administrative	50,939	45,572	101,835	90,070
Significant asset impairments and restructuring costs	8,153	9,102	12,451	12,511
Amortization of intangible assets	9,845	8,920	17,286	17,838
Acquisition and integration costs	857	495	3,415	563
Total operating expenses	384,870	343,352	755,600	667,535
Income from operations	102,813	58,429	188,029	118,433
Interest and other income, net	8,551	808	40,524	4,494
Interest expense	(23,889)	(11,985)	(39,759)	(20,633)
Income before income taxes	87,475	47,252	188,794	102,294
Provision for income taxes	29,821	8,330	54,899	17,549
Net income	$ 57,654	$ 38,922	$ 133,895	$ 84,745
Basic net income per common share	$ 0.39	$ 0.26	$ 0.90	$ 0.55
Diluted net income per potential common share	$ 0.38	$ 0.25	$ 0.89	$ 0.55
Weighted average basic common shares outstanding	149,616	152,197	149,351	153,179
Weighted average dilutive potential common shares outstanding	150,147	153,344	149,852	154,580

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		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Net income	$ 57,654	$ 38,922	$ 133,895	$ 84,745
Change in unrealized gain (loss) on available-for-sale securities, net of tax	648	(1,331)	1,698	(2,105)
Change in unrealized gain (loss) on foreign currency forward contracts, net of tax	(1,151)	(1,346)	4,191	(6,685)
Change in unrealized gain (loss) on interest rate swaps, net of tax	(1,803)	7,112	(6,827)	11,038
Change in cumulative translation adjustments	(8,150)	(5,589)	7,829	(18,746)
Other comprehensive gain (loss)	(10,456)	(1,154)	6,891	(16,498)
Total comprehensive income	$ 47,198	$ 37,768	$ 140,786	$ 68,247

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 29, 2023	October 29, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,167,695	$ 994,352
Short-term investments	150,464	153,989
Accounts receivable, net of allowance for credit losses of $10.5 million and $11.0 million as of April 29, 2023 and October 29, 2022, respectively.	1,036,688	920,772
Inventories, net	1,098,092	946,730
Prepaid expenses and other	415,687	370,053
Total current assets	3,868,626	3,385,896
Long-term investments	25,237	35,385
Equipment, building, furniture and fixtures, net	278,344	267,779
Operating right-of-use assets	41,119	45,108
Goodwill	446,364	328,322
Other intangible assets, net	231,314	69,517
Deferred tax asset, net	795,051	824,008
Other long-term assets	89,583	113,617
Total assets	$ 5,775,638	$ 5,069,632
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 444,769	$ 516,047
Accrued liabilities and other short-term obligations	380,969	360,782
Deferred revenue	202,818	137,899
Operating lease liabilities	17,443	18,925
Current portion of long-term debt	11,930	6,930
Total current liabilities	1,057,929	1,040,583
Long-term deferred revenue	67,807	62,336
Other long-term obligations	154,870	150,335
Long-term operating lease liabilities	39,979	42,392
Long-term debt, net	1,546,400	1,061,125
Total liabilities	$ 2,866,985	$ 2,356,771
Commitments and contingencies (Note 23)		
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; 149,498,465 and 148,412,943 shares issued and outstanding	1,495	1,484
Additional paid-in capital	6,445,247	6,390,252
Accumulated other comprehensive loss	(39,754)	(46,645)
Accumulated deficit	(3,498,335)	(3,632,230)
Total stockholders' equity	2,908,653	2,712,861
Total liabilities and stockholders' equity	$ 5,775,638	$ 5,069,632

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

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

	Six Months Ended	
	April 29, 2023	April 30, 2022
Cash flows provided by (used in) operating activities:		
Net income	$ 133,895	$ 84,745
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation of equipment, building, furniture and fixtures, and amortization of leasehold improvements	45,903	46,030
Share-based compensation costs	62,372	50,970
Amortization of intangible assets	23,600	24,463
Deferred taxes	(2,134)	(13,474)
Provision for inventory excess and obsolescence	12,691	8,487
Provision for warranty	13,577	7,228
Gain on cost method equity investment	(26,455)	(4,120)
Other	11,331	(1,713)
Changes in assets and liabilities:		
Accounts receivable	(116,914)	104,455
Inventories	(162,143)	(171,056)
Prepaid expenses and other	(41,511)	(36,673)
Operating lease right-of-use assets	7,644	8,222
Accounts payable, accruals and other obligations	(55,754)	(88,960)
Deferred revenue	68,818	43,753
Short- and long-term operating lease liabilities	(10,748)	(10,216)
Net cash provided by (used in) operating activities	(35,828)	52,141
Cash flows used in investing activities:		
Payments for equipment, furniture, fixtures and intellectual property	(58,034)	(45,249)
Purchases of investments	(106,245)	(461,553)
Proceeds from sales and maturities of investments	123,251	90,005
Settlement of foreign currency forward contracts, net	(6,194)	3,708
Purchase of cost method equity investments	—	(8,000)
Acquisition of business, net of cash acquired	(230,048)	(62,043)
Net cash used in investing activities	(277,270)	(483,132)
Cash flows provided by financing activities:		
Proceeds from issuance of senior notes	—	400,000
Proceeds from issuance of term loan, net	497,500	—
Payment of long-term debt	(3,465)	(3,465)
Payment of debt issuance costs	(5,230)	(5,145)
Payment of finance lease obligations	(1,864)	(1,635)
Shares repurchased for tax withholdings on vesting of stock unit awards	(22,022)	(35,004)
Repurchases of common stock - repurchase program	—	(332,794)
Proceeds from issuance of common stock	14,656	15,185
Net cash provided by financing activities	479,575	37,142
Effect of exchange rate changes on cash, cash equivalents and restricted cash	6,867	(8,807)
Net increase (decrease) in cash, cash equivalents and restricted cash	173,344	(402,656)
Cash, cash equivalents and restricted cash at beginning of period	994,378	1,422,604
Cash, cash equivalents and restricted cash at end of period	$ 1,167,722	$ 1,019,948
Supplemental disclosure of cash flow information		
Cash paid during the period for interest	$ 37,514	$ 16,809
Cash paid during the period for income taxes, net	$ 24,218	$ 17,905
Operating lease payments	$ 11,689	$ 10,917
Non-cash investing and financing activities		
Purchase of equipment in accounts payable	$ 4,618	$ 8,093
Repurchase of common stock in accrued liabilities from repurchase program	$ —	$ 5,000
Operating right-of-use assets subject to lease liability	$ 6,177	$ 3,589
Gain on cost method equity investment	$ 26,455	$ 4,120

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

CIENA CORPORATION
CONDENSED CONSOLIDATED STATEMENTS 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 29, 2022	148,412,943	$ 1,484	$ 6,390,252	$ (46,645)	$ (3,632,230)	$ 2,712,861
Net income	—	—	—	—	133,895	133,895
Other comprehensive income	—	—	—	6,891	—	6,891
Issuance of shares from employee equity plans	1,533,085	15	14,641	—	—	14,656
Share-based compensation expense	—	—	62,372	—	—	62,372
Shares repurchased for tax withholdings on vesting of stock unit awards	(447,563)	(4)	(22,018)	—	—	(22,022)
Balance at April 29, 2023	149,498,465	$ 1,495	$ 6,445,247	$ (39,754)	$ (3,498,335)	$ 2,908,653

	Common Stock Shares	Par Value	Additional Paid-in-Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at October 30, 2021	154,858,981	$ 1,549	$ 6,803,162	$ 439	$ (3,785,132)	$ 3,020,018
Net income	—	—	—	—	84,745	84,745
Other comprehensive loss	—	—	—	(16,498)	—	(16,498)
Repurchase of common stock - repurchase program	(5,084,758)	(51)	(336,943)	—	—	(336,994)
Issuance of shares from employee equity plans	1,593,394	16	15,169	—	—	15,185
Share-based compensation expense	—	—	50,970	—	—	50,970
Shares repurchased for tax withholdings on vesting of stock unit awards	(502,064)	(5)	(34,999)	—	—	(35,004)
Balance at April 30, 2022	150,865,553	$ 1,509	$ 6,497,359	$ (16,059)	$ (3,700,387)	$ 2,782,422

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”).

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America (“GAAP”) requires Ciena to make judgments, assumptions, and estimates that affect the amounts reported in the Condensed Consolidated Financial Statements and accompanying notes. 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 materially from these estimates under different assumptions or conditions. To the extent that there are material differences between Ciena’s estimates and actual results, Ciena’s consolidated financial statements will be affected.

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 of Ciena 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 GAAP have been condensed or omitted pursuant to SEC rules and regulations. The Condensed Consolidated Balance Sheet as of October 29, 2022 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 fiscal 2022 (the “2022 Annual Report”).

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 2023 and 2022 are 52-week fiscal years.

(2) SIGNIFICANT ACCOUNTING POLICIES

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 the 2022 Annual Report.

Newly Issued Accounting Standards - Not Yet Effective

In October 2021, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) No. 2021-08 (“ASU 2021-08”), *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* to improve the accounting for acquired revenue contracts with customers in a business combination to address recognition of an acquired contract liability and payment terms and their effect on subsequent revenue recognized by the acquirer. ASU 2021-08 is effective for annual periods beginning after December 15, 2022 on a prospective basis. Early adoption is permitted. Ciena is currently evaluating the impact of this ASU on its condensed consolidated financial statements and related disclosures.

(3) REVENUE

Disaggregation of Revenue

Ciena’s disaggregated revenue as presented below depicts the nature, amount, and timing of revenue and cash flows for similar groupings of Ciena’s various offerings. The sales cycle, contractual obligations, customer requirements, and go-to-market strategies may differ across Ciena’s product lines, resulting in different economic risk profiles for each line.

The tables below set forth Ciena’s disaggregated revenue for the periods indicated (in thousands):

	Quarter Ended April 29, 2023				
	Networking Platforms	Platform Software and Services	Blue Planet Automation Software and Services	Global Services	Total
Product lines:					
Converged Packet Optical	$ 784,549	$ —	$ —	$ —	$ 784,549
Routing and Switching	130,310	—	—	—	130,310
Platform Software and Services	—	69,443	—	—	69,443
Blue Planet Automation Software and Services	—	—	20,567	—	20,567
Maintenance Support and Training	—	—	—	73,160	73,160
Installation and Deployment	—	—	—	39,486	39,486
Consulting and Network Design	—	—	—	15,140	15,140
Total revenue by product line	$ 914,859	$ 69,443	$ 20,567	$ 127,786	$ 1,132,655
Timing of revenue recognition:					
Products and services at a point in time	$ 914,859	$ 13,447	$ 7,329	$ 15,412	$ 951,047
Services transferred over time	—	55,996	13,238	112,374	181,608
Total revenue by timing of revenue recognition	$ 914,859	$ 69,443	$ 20,567	$ 127,786	$ 1,132,655

	Quarter Ended April 30, 2022				
	Networking Platforms	Platform Software and Services	Blue Planet Automation Software and Services	Global Services	Total
Product lines:					
Converged Packet Optical	$ 625,294	$ —	$ —	$ —	$ 625,294
Routing and Switching	109,186	—	—	—	109,186
Platform Software and Services	—	69,157	—	—	69,157
Blue Planet Automation Software and Services	—	—	16,881	—	16,881
Maintenance Support and Training	—	—	—	74,019	74,019
Installation and Deployment	—	—	—	41,430	41,430
Consulting and Network Design	—	—	—	13,260	13,260
Total revenue by product line	$ 734,480	$ 69,157	$ 16,881	$ 128,709	$ 949,227
Timing of revenue recognition:					
Products and services at a point in time	$ 734,480	$ 21,743	$ 4,036	$ 13,469	$ 773,728
Services transferred over time	—	47,414	12,845	115,240	175,499
Total revenue by timing of revenue recognition	$ 734,480	$ 69,157	$ 16,881	$ 128,709	$ 949,227

	Six Months Ended April 29, 2023				
	Networking Platforms	Platform Software and Services	Blue Planet Automation Software and Services	Global Services	Total
Product lines:					
Converged Packet Optical	$ 1,520,183	$ —	$ —	$ —	$ 1,520,183
Routing and Switching	249,814	—	—	—	249,814
Platform Software and Services	—	142,888	—	—	142,888
Blue Planet Automation Software and Services	—	—	35,973	—	35,973
Maintenance Support and Training	—	—	—	141,051	141,051
Installation and Deployment	—	—	—	74,061	74,061
Consulting and Network Design	—	—	—	25,206	25,206
Total revenue by product line	$ 1,769,997	$ 142,888	$ 35,973	$ 240,318	$ 2,189,176
Timing of revenue recognition:					
Products and services at a point in time	$ 1,769,997	$ 32,311	$ 11,312	$ 24,667	$ 1,838,287
Services transferred over time	—	110,577	24,661	215,651	350,889
Total revenue by timing of revenue recognition	$ 1,769,997	$ 142,888	$ 35,973	$ 240,318	$ 2,189,176

	Six months ended April 30, 2022				
	Networking Platforms	Platform Software and Services	Blue Planet Automation Software and Services	Global Services	Total
Product lines:					
Converged Packet Optical	$ 1,166,230	$ —	$ —	$ —	$ 1,166,230
Routing and Switching	194,896	—	—	—	194,896
Platform Software and Services	—	142,074	—	—	142,074
Blue Planet Automation Software and Services	—	—	37,992	—	37,992
Maintenance Support and Training	—	—	—	146,509	146,509
Installation and Deployment	—	—	—	81,800	81,800
Consulting and Network Design	—	—	—	24,169	24,169
Total revenue by product line	$ 1,361,126	$ 142,074	$ 37,992	$ 252,478	$ 1,793,670
Timing of revenue recognition:					
Products and services at a point in time	$ 1,361,126	$ 51,424	$ 12,810	$ 21,960	$ 1,447,320
Services transferred over time	—	90,650	25,182	230,518	346,350
Total revenue by timing of revenue recognition	$ 1,361,126	$ 142,074	$ 37,992	$ 252,478	$ 1,793,670

Ciena reports its sales geographically using the following markets: (i) the United States, Canada, the Caribbean and Latin America (“Americas”); (ii) Europe, Middle East and Africa (“EMEA”); and (iii) Asia Pacific, Japan and India (“APAC”). Americas includes activities in North America and South America. Within each geographic area, Ciena maintains specific teams or personnel that focus on a particular region, country, customer or market vertical. These teams include sales management, account salespersons, and sales engineers, as well as services professionals and commercial management personnel. The following table reflects Ciena’s geographic distribution of revenue based principally on the relevant location for Ciena’s delivery of products and performance of services.

For the periods below, Ciena’s geographic distribution of revenue was as follows (in thousands):

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Geographic distribution:				
Americas	$ 794,359	$ 700,840	$ 1,559,455	$ 1,295,984
EMEA	173,414	145,106	326,218	295,891
APAC	164,882	103,281	303,503	201,795
Total revenue by geographic distribution	$ 1,132,655	$ 949,227	$ 2,189,176	$ 1,793,670

Ciena's revenue includes $722.6 million and $642.2 million of United States revenue for the second quarter of fiscal 2023 and 2022, respectively. For the six months ended April 29, 2023 and April 30, 2022, United States revenue was $1.4 billion and $1.2 billion, respectively. No other country accounted for 10% or more of total revenue for the periods presented in the above table.

For the periods below, the only customers that accounted for at least 10% of Ciena's revenue were as follows (in thousands):

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Web-scale provider	$ 123,452	n/a	$ 244,779	n/a
AT&T	n/a	103,189	251,329	214,065
Total	$ 123,452	$ 103,189	$ 496,108	$ 214,065

n/a Denotes revenue representing less than 10% of total revenue for the period

The Web-scale provider noted in the above table purchased products from each of Ciena's operating segments excluding Blue Planet® Automation Software and Services. AT&T purchased products and services from each of Ciena's operating segments for each of the periods presented.

- *Networking Platforms* revenue reflects sales of Ciena's Converged Packet Optical and Routing and Switching product lines.
    - Converged Packet Optical - includes the 6500 Packet-Optical Platform, the Waveserver® modular interconnect system, the 6500 Reconfigurable Line System (RLS), the 5400 family of Packet-Optical Platforms, and the Coherent ELS open line system (OLS). This product line includes the WL5n 100G-400G coherent pluggable transceivers. This product line also includes the Z-Series Packet-Optical Platform and Optical Microsystems products.
    - Routing and Switching - includes the 3000 family of service delivery platforms and the 5000 family of service aggregation. This product line also includes the 6500 Packet Transport System (PTS), which combines packet switching, control plane operation, and integrated optics, the 8100 Coherent IP networking platforms, the 8700 Packetwave Platform, and Vyatta virtual routing and switching products. This product line also includes SD-Edge software and passive optical network ("PON") routing and switching portfolio products from our recent acquisitions of Benu Networks, Inc. ("Benu") and Tibit Communications, Inc. ("Tibit") respectively, during the first quarter of fiscal 2023.

  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. Operating system software and enhanced software features embedded in Ciena hardware are each considered distinct performance obligations for which the revenue is generally recognized upfront at a point in time upon transfer of control.

- *Platform Software and Services* offerings provide domain control management, analytics, data and planning tools, and applications to assist customers in managing their networks, including by creating more efficient operations and more proactive visibility into their networks. Ciena's platform software includes its Manage, Control and Plan ("MCP") domain controller solution, its suite of MCP applications, and its OneControl Unified Management System, as well as planning tools and a number of legacy software solutions that support Ciena’s installed base of network solutions. Platform software-related services revenue includes sales of subscription, installation, support, and consulting services related to Ciena’s software platforms, operating system software and enhanced software features embedded in each of the Networking Platforms product lines above. Revenue from the software portion of this segment is included in product revenue on the Condensed Consolidated Statements of Operations. Revenue from services portions of this segment is included in services revenue on the Condensed Consolidated Statements of Operations.

- *Blue Planet Automation Software and Services* is a comprehensive, cloud native, and standards-based software portfolio, together with related services, that enables customers to realize digital transformation through the automation of the services lifecycle. Ciena’s Blue Planet Automation Platform includes multi-domain service orchestration (MDSO), inventory management (BPI), route optimization and analysis (ROA), network function virtualization orchestration (NFVO), and unified assurance and analytics (UAA). Services revenue includes sales of subscription, installation, support, consulting and design services related to Ciena’s Blue Planet Automation Platform. Revenue from the software portion of this segment is included in product revenue on the Condensed Consolidated Statements of Operations. Revenue from services portions of this segment is included in services revenue on the Condensed Consolidated Statements of Operations.

Ciena’s software platform revenue typically reflects either perpetual or term-based software licenses, and these sales are considered distinct performance obligations in which revenue is generally recognized upfront at a point in time upon transfer of control. Revenue from software subscription and support is recognized ratably over the period during which the services are performed. Revenue from professional services for solution customization, software and solution support services, consulting and design, and build-operate-transfer services relating to Ciena’s software offerings is recognized over time with Ciena applying the input method to determine the amount of revenue to be recognized in a given period.

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

  Ciena’s Global Services are considered a distinct performance obligation for which revenue is generally recognized over time. Revenue from maintenance support is recognized ratably over the period during which the services are performed. Revenue from installation and deployment services and consulting and network design services is also recognized over time with Ciena applying the input method to determine the amount of revenue to be recognized in a given period. Revenue from training services is generally recognized at a point in time upon completion of the service.

Contract Balances

The following table provides information about receivables, contract assets and contract liabilities (deferred revenue) from contracts with customers (in thousands):

	Balance at April 29, 2023	Balance at October 29, 2022
Accounts receivable, net	$ 1,036,688	$ 920,772
Contract assets for unbilled accounts receivable, net	$ 180,020	$ 156,039
Deferred revenue	$ 270,625	$ 200,235

Ciena’s contract assets represent unbilled accounts receivable, net where transfer of a product or service has occurred but invoicing is conditional upon completion of future performance obligations. These amounts are primarily related to installation and deployment and professional services arrangements where transfer of control has occurred, but Ciena has not yet invoiced the customer. Contract assets are included in prepaid expenses and other in the Condensed Consolidated Balance Sheets. See Note 11 below.

Contract liabilities consist of deferred revenue and represent advanced payments against non-cancelable customer orders received prior to revenue recognition. Ciena recognized approximately $100.1 million and $82.0 million of revenue during the first six months of fiscal 2023 and 2022, respectively, that was included in the deferred revenue balance as of October 29, 2022 and October 30, 2021, respectively. Revenue recognized due to changes in transaction price from performance obligations satisfied or partially satisfied in previous periods was immaterial during the six months ended April 29, 2023 and April 30, 2022.

Capitalized Contract Acquisition Costs

Capitalized contract acquisition costs consist of deferred sales commissions, and were $36.6 million and $39.7 million as of April 29, 2023 and October 29, 2022, respectively. Capitalized contract acquisition costs were included in (i) prepaid expenses and other and (ii) other long-term assets. The amortization expense associated with these costs was $16.2 million and $14.1 million during the first six months of fiscal 2023 and 2022, respectively, and was included in selling and marketing expense on the Condensed Consolidated Statements of Operations.

Remaining Performance Obligations

Remaining Performance Obligations (“RPO”) are comprised of non-cancelable customer purchase orders for products and services that are awaiting transfer of control for revenue recognition under the applicable contract terms. As of April 29, 2023, the aggregate amount of RPO was $2.4 billion. As of April 29, 2023, Ciena expects approximately 86% of the RPO to be recognized as revenue within the next 12 months.

(4) BUSINESS COMBINATIONS

Benu and Tibit Acquisitions

On November 17, 2022, Ciena acquired Benu, a portfolio of cloud-native software solutions, including a virtual Broadband Network Gateway ((v)BNG), that complements Ciena’s existing portfolio of broadband access solutions. On December 30, 2022, Ciena acquired Tibit, a provider and developer of PON-specific hardware and operating software that can be integrated into a carrier-grade Ethernet switch and will strengthen Ciena’s portfolio of next-generation PON solutions that support residential, enterprise, and mobility use cases. These businesses were acquired for an aggregate of approximately $291.7 million, of which $244.7 million was paid in cash, and $47.0 million represents the fair value of Ciena’s previously held cost method equity investment in Tibit. The acquisition of Tibit triggered the remeasurement of Ciena’s previously held investment in Tibit to fair value, which resulted in Ciena recognizing a gain on its cost method equity investment of $26.5 million. Each of these transactions has been accounted for as the acquisition of a business.

Ciena incurred approximately $3.4 million in acquisition-related costs associated with these acquisitions. These costs and expenses primarily include fees associated with financial, legal, and accounting advisors and employment-related costs. These costs were recorded in acquisition and integration costs on the Condensed Consolidated Statements of Operations.

The following table summarizes the final purchase price allocation related to the acquisitions based on the estimated fair value of the acquired assets and assumed liabilities (in thousands):

	Amount
Cash and cash equivalents	$ 14,634
Accounts receivable, net	443
Inventories, net	1,406
Prepaid expenses and other	810
Equipment, furniture and fixtures	1,090
Goodwill	117,997
Developed technology	75,400
In-process technology	89,100
Customer relationships and contracts	18,400
Order backlog	2,480
Deferred tax asset, net	(27,782)
Accounts payable	(420)
Accrued liabilities and other short-term obligations	(874)
Deferred revenue	(851)
Other long-term obligations	(144)
Total purchase consideration	$ 291,689

Developed technology represents purchased technology that has reached technological feasibility and for which the acquired companies had substantially completed development as of the date of acquisition. Fair value was determined using future discounted cash flows related to the projected income stream of the developed technology for a discrete projection period. Cash flows were discounted to their present value as of the closing date. Developed technology is amortized on a straight-line basis over its estimated useful life of five years.

In-process technology represents purchased technology that had not reached technological feasibility as of the date of acquisition. Fair value was determined using future discounted cash flows related to the projected income stream of the in-process technology for a discrete projection period. Cash flows were discounted to their present value as of the closing date. Upon completion of the in-process technology, it will be amortized on a straight line basis over its estimated useful life, which will be determined on that date.

Customer relationships and contracts represent agreements with existing Tibit customers and have an estimated useful life of three years. Order backlog is amortized over the fulfillment period.

The goodwill generated from these acquisitions is primarily related to expected economic synergies. The total goodwill amount was recorded in the Networking Platforms segment. The goodwill is not deductible for income tax purposes.

Pro forma disclosures have not been included due to immateriality. The amounts of revenue and earnings for these acquisitions since the acquisition dates, which are included on the Condensed Consolidated Statements of Operations for the reporting period are immaterial.

(5) SIGNIFICANT ASSET IMPAIRMENT AND RESTRUCTURING COSTS

Restructuring Costs

Ciena has undertaken a number of restructuring activities intended to reduce expense and to 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, which are included in accrued liabilities and other short-term obligations on the Condensed Consolidated Balance Sheets, for the six months ended April 29, 2023 (in thousands):

	Workforce reduction	Other restructuring activities	Total
Balance at October 29, 2022	$ 1,215	$ 4,620	$ 5,835
Charges	2,863 [1]	9,588 [2]	12,451
Cash payments	(1,783)	(14,208)	(15,991)
Balance at April 29, 2023	$ 2,295	$ —	$ 2,295
Current restructuring liabilities	$ 2,295	$ —	$ 2,295

[1] Reflects employee costs associated with workforce reductions during the six months ended April 29, 2023 as part of a business optimization strategy to improve gross margin, constrain operating expense, and redesign certain business processes.

[2] Primarily represents costs related to restructured real estate facilities and the redesign of certain business processes associated with Ciena's supply chain and distribution structure reorganization.

The following table sets forth the restructuring activity and balance of the restructuring liability accounts, which are included in accrued liabilities and other short-term obligations on the Condensed Consolidated Balance Sheets for the six months ended April 30, 2022 (in thousands):

	Workforce reduction	Other restructuring activities	Total
Balance at October 30, 2021	$ 781	$ —	$ 781
Charges	1,413 [1]	7,018 [2]	8,431
Cash payments	(1,388)	(7,018)	(8,406)
Balance at April 30, 2022	$ 806	$ —	$ 806
Current restructuring liabilities	$ 806	$ —	$ 806

[1] Reflects employee costs associated with workforce reductions during the six months ended April 30, 2022 as part of a business optimization strategy to improve gross margin, constrain operating expense, and redesign certain business processes.

[2] Primarily represents the redesign of certain business processes associated with Ciena's supply chain and distribution structure reorganization and costs related to restructured real estate facilities.

(6) INTEREST AND OTHER INCOME, NET

The components of interest and other income, net, are as follows for the periods indicated (in thousands):

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Interest income	$ 10,416	$ 1,434	$ 17,530	$ 2,188
Gains (losses) on non-hedge designated foreign currency forward contracts	(2,795)	2,334	(4,564)	(1,926)
Foreign currency exchange gains (losses)	2,987	(1,267)	1,104	3,499
Gain on cost method equity investment	—	—	26,455	4,120
Other	(2,057)	(1,693)	(1)	(3,387)
Interest and other income, net	$ 8,551	$ 808	$ 40,524	$ 4,494

During the first quarter of fiscal 2023, the acquisition of Tibit triggered the remeasurement of Ciena's previously held investment in Tibit to fair value, which resulted in Ciena recognizing a gain on its cost method equity investment of $26.5 million. See Note 4 above.

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 $1.1 million and $3.5 million in foreign currency exchange rate gains for the first six months of fiscal 2023 and 2022, respectively, as a result of monetary assets and liabilities that were transacted in a currency other than Ciena's functional currency. The related remeasurement adjustments were recorded in interest and other income, net, on the Condensed Consolidated Statements of Operations. From time to time, Ciena uses foreign currency forwards to hedge this type of balance sheet exposure. 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, net, on the Condensed Consolidated Statements of Operations. During the first six months of fiscal 2023 and 2022, Ciena recorded losses of $4.6 million and $1.9 million, respectively, from non-hedge designated foreign currency forward contracts.

(7) INCOME TAXES

The effective tax rate for the quarter and six months ended April 29, 2023 was higher than the effective tax rate for the quarter and six months ended April 30, 2022, primarily due to the mandatory capitalization of research and development expenses in the second quarter and six months ended April 29, 2023.

(8) CASH EQUIVALENT, SHORT-TERM AND LONG-TERM INVESTMENTS

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

	April 29, 2023			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations	$ 120,628	$ 39	$ (1,620)	$ 119,047
Corporate debt securities	57,707	41	(90)	57,658
Time deposits	91,454	2	(5)	91,451
	$ 269,789	$ 82	$ (1,715)	$ 268,156
Included in cash equivalents	$ 92,455	$ —	$ —	$ 92,455
Included in short-term investments	152,105	38	(1,679)	150,464
Included in long-term investments	25,229	44	(36)	25,237
	$ 269,789	$ 82	$ (1,715)	$ 268,156

	October 29, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations	$ 137,963	$ —	$ (3,379)	$ 134,584
Corporate debt securities	54,899	1	(405)	54,495
Time deposits	55,889	—	(64)	55,825
	$ 248,751	$ 1	$ (3,848)	$ 244,904
Included in cash equivalents	$ 55,530	$ —	$ —	$ 55,530
Included in short-term investments	156,430	1	(2,442)	153,989
Included in long-term investments	36,791	—	(1,406)	35,385
	$ 248,751	$ 1	$ (3,848)	$ 244,904

The following table summarizes the final legal maturities of debt investments as of April 29, 2023 (in thousands):

	Amortized Cost	Estimated Fair Value
Less than one year	$ 244,560	$ 242,919
Due in 1-2 years	25,229	25,237
	$ 269,789	$ 268,156

(9) FAIR VALUE MEASUREMENTS

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

	April 29, 2023			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 804,637	$ —	$ —	$ 804,637
Bond mutual fund	101,352	—	—	101,352
Time deposits	91,451	—	—	91,451
Deferred compensation plan assets	11,565	—	—	11,565
U.S. government obligations	—	119,047	—	119,047
Corporate debt securities	—	57,658	—	57,658
Foreign currency forward contracts	—	4,240	—	4,240
Interest rate swaps	—	6,597	—	6,597
Total assets measured at fair value	$ 1,009,005	$ 187,542	$ —	$ 1,196,547
Liabilities:				
Foreign currency forward contracts	$ —	$ 10,364	$ —	$ 10,364
Interest rate swaps	—	3,211	—	3,211
Total liabilities measured at fair value	$ —	$ 13,575	$ —	$ 13,575

	October 29, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 639,024	$ —	$ —	$ 639,024
Bond mutual fund	71,145	—	—	71,145
Time deposits	55,825	—	—	55,825
Deferred compensation plan assets	12,751	—	—	12,751
U.S. government obligations	—	134,584	—	134,584
Corporate debt securities	—	54,495	—	54,495
Foreign currency forward contracts	—	251	—	251
Interest rate swaps	—	12,306	—	12,306
Total assets measured at fair value	$ 778,745	$ 201,636	$ —	$ 980,381
Liabilities:				
Foreign currency forward contracts	$ —	$ 15,605	$ —	$ 15,605
Total liabilities measured at fair value	$ —	$ 15,605	$ —	$ 15,605

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

	April 29, 2023			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	$ 990,921	$ 7,523	$ —	$ 998,444
Short-term investments	6,519	143,945	—	150,464
Prepaid expenses and other	—	4,240	—	4,240
Long-term investments	—	25,237	—	25,237
Other long-term assets	11,565	6,597	—	18,162
Total assets measured at fair value	$ 1,009,005	$ 187,542	$ —	$ 1,196,547
Liabilities:				
Accrued liabilities and other short-term obligations	$ —	$ 10,364	$ —	$ 10,364
Other long-term obligations	—	3,211	—	3,211
Total liabilities measured at fair value	$ —	$ 13,575	$ —	$ 13,575

	October 29, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	$ 757,725	$ 7,974	$ —	$ 765,699
Short-term investments	8,269	145,720	—	153,989
Prepaid expenses and other	—	251	—	251
Long-term investments	—	35,385	—	35,385
Other long-term assets	12,751	12,306	—	25,057
Total assets measured at fair value	$ 778,745	$ 201,636	$ —	$ 980,381
Liabilities:				
Accrued liabilities and other short-term obligations	$ —	$ 15,605	$ —	$ 15,605
Total liabilities measured at fair value	$ —	$ 15,605	$ —	$ 15,605

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

(10) INVENTORIES

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

	April 29, 2023	October 29, 2022
Raw materials	$ 753,374	$ 664,916
Work-in-process	20,927	18,232
Finished goods	307,997	258,584
Deferred cost of goods sold	58,060	41,084
Gross inventories	1,140,358	982,816
Reserve for inventory excess and obsolescence	(42,266)	(36,086)
Inventories, net	$ 1,098,092	$ 946,730

The increase in raw materials inventory is related to the steps Ciena has been taking to mitigate the impact on its customers and business of supply chain constraints in recent periods and a global market shortage of semiconductor components. 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, which are affected by changes in Ciena's strategic direction, discontinuance of a product or introduction of newer versions of products, declines in the sales of or forecasted demand for certain products, and general market conditions. During the first six months of fiscal 2023, Ciena recorded a provision for inventory excess and obsolescence of $12.7 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.

(11) PREPAID EXPENSES AND OTHER

As of the dates indicated, prepaid expenses and other are comprised of the following (in thousands):

	April 29, 2023	October 29, 2022
Contract assets for unbilled accounts receivable, net	$ 180,020	$ 156,039
Prepaid VAT and other taxes	68,769	63,975
Prepaid expenses	50,301	55,440
Other non-trade receivables	41,265	35,929
Product demonstration equipment, net	41,359	33,516
Capitalized contract acquisition costs	29,213	24,026
Foreign currency forward contracts	4,240	251
Deferred deployment expense	520	877
	$ 415,687	$ 370,053

Depreciation of product demonstration equipment was $3.8 million during the first six months of fiscal 2023 and $4.8 million during the first six months of fiscal 2022.

For further discussion on contract assets and capitalized contract acquisition costs, see Note 3 above.

(12) INTANGIBLE ASSETS

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

	April 29, 2023			October 29, 2022		
	Gross Intangible	Accumulated Amortization	Net Intangible	Gross Intangible	Accumulated Amortization	Net Intangible
Developed technology	$ 503,618	$ (400,509)	$ 103,109	$ 428,218	$ (386,300)	$ 41,918
In-process technology	89,100	—	89,100	—	—	—
Patents and licenses	8,415	(4,718)	3,697	8,415	(4,228)	4,187
Customer relationships, covenants not to compete, outstanding purchase orders and contracts	411,190	(375,782)	35,408	390,271	(366,859)	23,412
Total intangible assets	$ 1,012,323	$ (781,009)	$ 231,314	$ 826,904	$ (757,387)	$ 69,517

The aggregate amortization expense of intangible assets was $23.6 million during the first six months of fiscal 2023 and $24.5 million during the first six months of fiscal 2022. Expected future amortization of intangible assets for the fiscal years indicated is as follows (in thousands):

Fiscal Year	Amount
Remaining fiscal 2023	$ 26,815
2024	39,754
2025	34,555
2026	23,293
2027	15,789
Thereafter	2,008
	$ 142,214 (1)

(1) Does not include amortization of in-process technology, as estimation of the timing of future amortization expense would be impractical.

(13) GOODWILL

The following table presents the goodwill allocated to Ciena’s operating segments as of April 29, 2023 and October 29, 2022, as well as the changes to goodwill during first six months of fiscal 2023 (in thousands):

	Balance at October 29, 2022	Acquisitions	Impairments	Translation	Balance at April 29, 2023
Platform Software and Services	$ 156,191	$ —	$ —	$ —	$ 156,191
Blue Planet Automation Software and Services	89,049	—	—	—	89,049
Networking Platforms	83,082	117,997	—	45	201,124
Total	$ 328,322	$ 117,997	$ —	$ 45	$ 446,364

(14) OTHER BALANCE SHEET DETAILS

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

	April 29, 2023	October 29, 2022
Compensation, payroll related tax and benefits	$ 130,526	$ 126,338
Warranty	49,187	45,503
Income taxes payable	41,025	11,472
Vacation	29,740	26,396
Foreign currency forward contracts	10,364	15,604
Interest payable	5,692	4,793
Finance lease liabilities	3,904	3,758
Other	110,531	126,918
	$ 380,969	$ 360,782

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

	Beginning Balance	Current Period Provisions	Settlements	Ending Balance
Six Months Ended April 30, 2022	$ 48,019	7,228	(9,563)	$ 45,684
Six Months Ended April 29, 2023	$ 45,503	13,577	(9,893)	$ 49,187

As of the dates indicated, deferred revenue is comprised of the following (in thousands):

	April 29, 2023	October 29, 2022
Products	$ 33,914	$ 19,814
Services	236,711	180,421
Total deferred revenue	270,625	200,235
Less current portion	(202,818)	(137,899)
Long-term deferred revenue	$ 67,807	$ 62,336

(15) DERIVATIVE INSTRUMENTS

Foreign Currency Derivatives

Ciena conducts business globally in numerous currencies, and thus is exposed to adverse foreign currency exchange rate changes. To limit this exposure, Ciena enters into foreign currency contracts. Ciena does not enter into such contracts for speculative purposes.

As of April 29, 2023 and October 29, 2022, Ciena had forward contracts to hedge its foreign exchange exposure in order to reduce variability in certain currencies that are principally related to research and development activities. The notional amount of these contracts was approximately $308.1 million and $272.2 million as of April 29, 2023 and October 29, 2022, respectively. These foreign exchange contracts have maturities of 24 months or less and have been designated as cash flow hedges.

As of April 29, 2023 and October 29, 2022, Ciena had forward contracts to hedge its foreign exchange exposure in order to reduce the variability in various currencies of certain balance sheet items. The notional amount of these contracts was approximately $218.8 million and $108.0 million as of April 29, 2023 and October 29, 2022, 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 interest on its term loan borrowings (see Note 16 below) and has hedged such risk by entering into floating-to-fixed interest rate swap arrangements.

Prior to amending the 2025 Term Loan (as defined in Note 16 below) to replace LIBOR with the Secured Overnight Financing Rate ("SOFR"), Ciena was exposed to floating rates of LIBOR interest on its 2025 Term Loan borrowings. Ciena hedged this risk by entering into floating-to-fixed interest rate swap arrangements (“interest rate swaps”). The interest rate swaps fix the LIBOR rate for $350.0 million of the 2025 Term Loan at 2.957% through September 2023. In January 2023, Ciena entered into a LIBOR to SOFR basis swap (“basis swap”) to hedge its exposure to SOFR rate. The basis swap offsets the LIBOR exposure risk of the interest rate swaps and effectively fixes the SOFR rate for $350.0 million of the 2025 Term Loan at 2.883% through September 2023. The total notional amount of these swaps in effect was $350.0 million as of April 29, 2023 and October 29, 2022. In April 2022, Ciena entered into floating to fixed forward starting interest rate swap arrangements (“forward starting swaps”). The forward starting swaps fix the SOFR for $350.0 million of the 2025 Term Loan at 2.968% from September 2023 through the 2025 Term Loan maturity. The total notional amount of forward starting swaps effective September 2023 was $350.0 million as of April 29, 2023.

In January 2023, Ciena entered into floating-to-fixed interest rate swap arrangements (“2028 interest rate swaps”). The 2028 interest rate swaps fix the SOFR rate of approximately $350.0 million of the principal amount of the 2030 Term Loan (as defined in Note 16 below) at 3.47% through January 2028. The total notional amount of these interest rate swaps in effect as of April 29, 2023 was $350.0 million.

Ciena expects the variable rate payments to be received under the terms of the interest rate swaps, basis swap, forward starting swaps, and 2028 interest rate swaps to offset exactly the forecasted variable rate payments on the equivalent notional amounts of the 2025 Term Loan and 2030 Term Loan. 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 6 and Note 9 above.

(16) SHORT-TERM AND LONG-TERM DEBT

Outstanding Term Loans Payable

2025 Term Loan

On January 23, 2020, Ciena entered into a Refinancing Amendment to Credit Agreement pursuant to which Ciena refinanced the entire outstanding amount of its then existing senior secured term loan and incurred a new senior secured term loan in an aggregate principal amount of $693.0 million and maturing on September 28, 2025 (the “2025 Term Loan”).

On January 19, 2023, in connection with the Incremental Agreement (as defined below) to the Credit Agreement (as defined below), the Credit Agreement was amended to replace LIBOR with SOFR for the 2025 Term Loan in response to pending impact of FASB Accounting Standards Codification 848, *Reference Rate Reform*.

The net carrying value of the 2025 Term Loan was comprised of the following as of the dates indicated (in thousands):

	April 29, 2023				October 29, 2022
	Principal Balance	Unamortized Discount	Deferred Debt Issuance Costs	Net Carrying Value	Net Carrying Value
2025 Term Loan	$ 672,210	$ (767)	$ (1,436)	$ 670,007	$ 673,010

Deferred debt issuance costs that were deducted from the carrying amounts of the 2025 Term Loan totaled $1.4 million as of April 29, 2023 and $1.7 million at October 29, 2022. Deferred debt issuance costs are amortized using the straight-line method, which approximates the effect of the effective interest rate, through the maturity of the 2025 Term Loan. The amortization of deferred debt issuance costs for the 2025 Term Loan is included in interest expense, and was $0.3 million during the first six months of each of fiscal 2023 and fiscal 2022. The carrying value of the 2025 Term Loan listed above is also net of any unamortized debt discounts.

As of April 29, 2023, the estimated fair value of the 2025 Term Loan was $668.8 million. Ciena’s 2025 Term Loan is categorized as Level 2 in the fair value hierarchy. Ciena estimated the fair value of its 2025 Term Loan using a market approach based on observable inputs, such as current market transactions involving comparable securities.

2030 Term Loan

On January 19, 2023, Ciena entered into an Incremental Joinder and Amendment Agreement (the “Incremental Agreement”) to its Credit Agreement, dated July 15, 2014, as amended (the “Credit Agreement”), by and among Ciena, the lenders party thereto and Bank of America, N.A., as administrative agent, pursuant to which Ciena incurred a new tranche of senior secured term loans in an aggregate principal amount of $500.0 million and maturing on January 19, 2030 (the “2030 Term Loan”). Net of original issue discount and debt issuance costs, the $492.7 million in proceeds from the 2030 Term Loan are intended to be used for general corporate purposes.

The Incremental Agreement amends the Credit Agreement and provides that the 2030 Term Loan will, among other things:

- mature on January 19, 2030;
- amortize in equal quarterly installments in aggregate amounts equal to 0.25% of the principal amount of the 2030 Term Loan as of January 19, 2023, or $1.25 million, with the balance payable at maturity;
- be subject to mandatory prepayment on the same basis as the 2025 Term Loan, including on the occurrence of certain specified events such as asset sales, debt issuances, and receipt of annual Excess Cash Flow (as defined in the Credit Agreement);
- bear interest, at Ciena’s election, at a per annum rate equal to (a) SOFR (subject to a floor of 0.00%) plus an applicable margin of 2.50%, or (b) a base rate (subject to a floor of 1.00%) plus an applicable margin of 1.50%; and
- be repayable at any time at Ciena’s election, provided that repayment of the 2030 Term Loan with proceeds of certain indebtedness prior to July 19, 2023 will require a prepayment premium of 1.00% of the aggregate principal amount of such prepayment.

Except as amended by the Incremental Agreement, the remaining terms of the Credit Agreement remain in full force and effect.

The net carrying value of the 2030 Term Loan was comprised of the following as of the date indicated (in thousands):

	April 29, 2023			
	Principal Balance	Unamortized Discount	Deferred Debt Issuance Costs	Net Carrying Value
2030 Term Loan	$ 500,000	$ (2,400)	$ (4,667)	$ 492,933

Deferred debt issuance costs that were deducted from the carrying amounts of the 2030 Term Loan totaled $4.7 million as of April 29, 2023. Deferred debt issuance costs are amortized using the straight-line method, which approximates the effect of the effective interest rate, through the maturity of the 2030 Term Loan. The amortization of deferred debt issuance costs for the 2030 Term Loan is included in interest expense and was $0.2 million during the first six months of fiscal 2023. The carrying value of the 2030 Term Loan listed above is also net of any unamortized debt discounts.

As of April 29, 2023, the estimated fair value of the 2030 Term Loan was $500.0 million. Ciena’s 2030 Term Loan is categorized as Level 2 in the fair value hierarchy. Ciena estimated the fair value of its 2030 Term Loan using a market approach based on observable inputs, such as current market transactions involving comparable securities.

Outstanding Senior Notes Payable

2030 Notes

On January 18, 2022, Ciena entered into an Indenture among Ciena, as issuer, certain domestic subsidiaries of Ciena, as guarantors, and U.S. Bank National Association, as trustee, pursuant to which Ciena issued $400.0 million in aggregate principal amount of 4.00% senior notes due 2030 (the “2030 Notes”).

The net carrying value of the 2030 Notes was comprised of the following as of the dates indicated (in thousands):

	April 29, 2023			October 29, 2022
	Principal Balance	Deferred Debt Issuance Costs	Net Carrying Value	Net Carrying Value
2030 Senior Notes 4.00% fixed-rate	$ 400,000	$ (4,610)	$ 395,390	$ 395,045

Deferred debt issuance costs that were deducted from the carrying amount of the 2030 Notes totaled $4.6 million as of April 29, 2023 and $5.0 million as of October 29, 2022. Deferred debt issuance costs are amortized using the straight-line method, which approximates the effect of the effective interest rate, through the maturity of the 2030 Notes. The amortization of deferred debt issuance costs for the 2030 Notes is included in interest expense, and was $0.3 million during the first six months of fiscal 2023 and was $0.2 million during the first six months of fiscal 2022.

As of April 29, 2023, the estimated fair value of the 2030 Notes was $349.0 million. The 2030 Notes are categorized as Level 2 in the fair value hierarchy. Ciena estimated the fair value of its 2030 Notes using a market approach based on observable inputs, such as current market transactions involving comparable securities.

(17) ABL CREDIT FACILITY

On February 10, 2023, Ciena modified its senior secured asset-backed revolving credit facility (the "ABL Credit Facility"), which provides for a total commitment of $300.0 million to extend its maturity date to September 28, 2025. Other terms of the ABL Credit Facility remain unchanged.

(18) ACCUMULATED OTHER COMPREHENSIVE INCOME

The following table summarizes the changes in accumulated balances of other comprehensive income ("AOCI"), net of tax, for the six months ended April 29, 2023 (in thousands):

	Unrealized Gain (Loss) on				
	Available-for-sale Securities	Foreign Currency Forward Contracts	Interest Rate Swaps	Cumulative Translation Adjustment	Total
Balance at October 29, 2022	$ (2,965)	$ (10,197)	$ 9,397	$ (42,880)	$ (46,645)
Other comprehensive gain (loss) before reclassifications	1,698	9,871	(3,848)	7,829	15,550
Amounts reclassified from AOCI	—	(5,680)	(2,979)	—	(8,659)
Balance at April 29, 2023	$ (1,267)	$ (6,006)	$ 2,570	$ (35,051)	$ (39,754)

The following table summarizes the changes in AOCI, net of tax, for the six months ended April 30, 2022 (in thousands):

	Unrealized Gain (Loss) on				
	Available-for-sale Securities	Foreign Currency Forward Contracts	Interest Rate Swaps	Cumulative Translation Adjustment	Total
Balance at October 30, 2021	$ (164)	$ 6,216	$ (12,179)	$ 6,566	$ 439
Other comprehensive gain (loss) before reclassifications	(2,105)	(5,083)	6,098	(18,746)	(19,836)
Amounts reclassified from AOCI	—	(1,602)	4,940	—	3,338
Balance at April 30, 2022	$ (2,269)	$ (469)	$ (1,141)	$ (12,180)	$ (16,059)

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

(19) EARNINGS PER SHARE CALCULATION

Basic net income per common share ("Basic EPS") is computed using the weighted average number of common shares outstanding. Diluted net income per potential common share ("Diluted EPS") is computed using the weighted average number of the following, in each case, to the extent that the effect is not anti-dilutive: (i) common shares outstanding; (ii) shares issuable upon vesting of stock unit awards; and (iii) shares issuable under Ciena's employee stock purchase plan and upon exercise of outstanding stock options, using the treasury stock method.

The following table presents the calculation of Basic and Diluted EPS for the periods indicated (in thousands, except per share amounts):

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Net income	$ 57,654	$ 38,922	$ 133,895	$ 84,745
Basic weighted average shares outstanding	149,616	152,197	149,351	153,179
Effect of dilutive potential common shares	531	1,147	501	1,401
Diluted weighted average shares	150,147	153,344	149,852	154,580
Basic EPS	$ 0.39	$ 0.26	$ 0.90	$ 0.55
Diluted EPS	$ 0.38	$ 0.25	$ 0.89	$ 0.55
Antidilutive employee share-based awards, excluded	1,550	1,392	2,159	1,077

(20) STOCKHOLDERS' EQUITY

Stock Repurchase Program

On December 9, 2021, Ciena announced that its Board of Directors authorized a program to repurchase up to $1.0 billion of its common stock.

During the first six months of fiscal 2023, Ciena did not repurchase any additional shares of its common stock. As of April 29, 2023, Ciena (i) has repurchased 8.4 million shares for an aggregate purchase price of $500.0 million at an average price of $59.28 per share, and (ii) has an aggregate of $500.0 million authorized and remaining under its stock repurchase program. The purchase price for the shares of Ciena's stock repurchased is reflected as a reduction of common stock and additional paid-in capital.

Stock Repurchases Related to Stock Unit Award Tax Withholdings

Ciena repurchases shares of its common stock to satisfy employee tax withholding obligations due on vesting of stock unit awards. The related purchase price of $22.0 million for the shares of Ciena's stock repurchased during the first six months of fiscal 2023 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.

(21) SHARE-BASED COMPENSATION EXPENSE

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

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Products	$ 1,155	$ 1,058	$ 2,206	$ 1,958
Services	2,659	1,943	4,956	3,527
Share-based compensation expense included in cost of goods sold	3,814	3,001	7,162	5,485
Research and development	10,731	8,309	19,965	15,140
Selling and marketing	8,755	8,061	17,179	15,121
General and administrative	8,468	7,334	17,936	15,246
Share-based compensation expense included in operating expense	27,954	23,704	55,080	45,507
Share-based compensation expense capitalized in inventory, net	92	(32)	130	(22)
Total share-based compensation expense	$ 31,860	$ 26,673	$ 62,372	$ 50,970

As of April 29, 2023, total unrecognized share-based compensation expense was approximately $260.7 million, which relates to unvested stock unit awards and is expected to be recognized over a weighted-average period of 1.52 years.

Stock Unit Awards

Beginning in December 2022, Ciena introduced a benefit, under which, upon completion of ten years of service and reaching age 60, executive officers who are residents of the United States, the United Kingdom, or Canada and who provide 12 months' notice of their retirement will receive continued vesting of all of their granted but unvested restricted stock unit ("RSU") awards and a pro-rated amount of their performance stock unit awards and market stock unit awards. Other employees in these countries will be subject to the same eligibility and notice requirements, but will receive acceleration of their granted but unvested RSU awards upon retirement. This program accelerates the recognition of share-based compensation expense.

(22) SEGMENTS AND ENTITY-WIDE DISCLOSURES

Segment Reporting

Ciena has the following operating segments for reporting purposes: (i) Networking Platforms; (ii) Platform Software and Services; (iii) Blue Planet Automation Software and Services; and (iv) Global Services.

Ciena's long-lived assets, including equipment, building, furniture and fixtures, right-of-use ("ROU") assets, 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 29, 2023, equipment, building, furniture and fixtures, net, totaled $278.3 million, and operating ROU assets totaled $41.1 million both of which support asset groups within Ciena's four operating segments and unallocated selling and general and administrative activities. As of April 29, 2023, finite-lived intangible assets, goodwill, and maintenance spares are assigned to asset groups within the following segments (in thousands):

	April 29, 2023				
	Networking Platforms	Platform Software and Services	Blue Planet Automation Software and Services	Global Services	Total
Other intangible assets, net	$ 207,709	—	23,605	—	$ 231,314
Goodwill	$ 201,124	156,191	89,049	—	$ 446,364
Maintenance spares, net	$ —	—	—	45,920	$ 45,920

Segment Profit (Loss)

Segment profit (loss) 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; significant asset impairments and restructuring costs; amortization of intangible assets; acquisition and integration costs; interest and other income, net; interest expense; and provision for income taxes.

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

	Quarter Ended		Six Months Ended	
	April 29, 2023	April 30, 2022	April 29, 2023	April 30, 2022
Segment profit (loss):				
Networking Platforms	$ 214,754	$ 152,769	$ 416,901	$ 286,894
Platform Software and Services	40,687	43,556	86,337	93,052
Blue Planet Automation Software and Services	(6,912)	(6,520)	(17,971)	(7,554)
Global Services	49,161	52,652	86,639	105,843
Total segment profit	297,690	242,457	571,906	478,235
Less: Non-performance operating expenses				
Selling and marketing	125,083	119,939	248,890	238,820
General and administrative	50,939	45,572	101,835	90,070
Significant asset impairments and restructuring costs	8,153	9,102	12,451	12,511
Amortization of intangible assets	9,845	8,920	17,286	17,838
Acquisition and integration costs	857	495	3,415	563
Add: Other non-performance financial items				
Interest and other income, net	8,551	808	40,524	4,494
Interest expense	(23,889)	(11,985)	(39,759)	(20,633)
Less: Provision for income taxes	29,821	8,330	54,899	17,549
Net income	$ 57,654	$ 38,922	$ 133,895	$ 84,745

Entity-Wide Reporting

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

	April 29, 2023	October 29, 2022
Canada	$ 235,929	$ 226,451
United States	43,847	47,515
Other International	39,687	38,921
Total	$ 319,463	$ 312,887

(23) COMMITMENTS AND CONTINGENCIES

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

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.

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

Cautionary Note Regarding Forward-Looking Statements

This 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, operational matters including the expansion of manufacturing capacity and accumulation of inventory, business prospects and strategies and other "forward-looking" information. Forward-looking statements may appear throughout this report, including in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors." In some cases, you can identify "forward-looking statements" by words like "may," "will," "would," "can," "should," "could," "expects," "future," "plans," "anticipates," "believes," "estimates," "predicts," "intends," "potential," "projects," "targets," "prepare," or "continue" or the negative of those words and other comparable words. You should be aware that the forward-looking statements contained in this report are based on our current views and assumptions, and are subject to known and unknown risks, uncertainties, and other factors that may cause actual events or results to differ materially.

For a discussion identifying some of the 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 report. For a more complete understanding of the risks associated with an investment in our securities, you should review these factors and the rest of this 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 for fiscal 2022, which we filed with the Securities and Exchange Commission (the "SEC") on December 16, 2022 (our "2022 Annual Report"). However, we operate in a very competitive and dynamic environment and new risks and uncertainties emerge, are identified or become apparent from time to time and therefore may not be identified in this report. We cannot predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this report. You should be aware that the forward-looking statements contained in this report are based on our current views and assumptions. We undertake no obligation to revise or to update any forward-looking statements made in this 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 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. Unless the context requires otherwise, references in this report to "Ciena," the "Company," "we," "us," and "our" refer to Ciena Corporation and its consolidated subsidiaries.

Overview

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our Condensed Consolidated Financial Statements and the accompanying notes thereto included in Item 1 of Part I of this report and in Item 8 of Part II of our 2022 Annual Report.

We are a networking systems, services, and software company, providing solutions that enable a wide range of network operators to deploy and manage next-generation networks that deliver services to businesses and consumers. We provide hardware, software, and services that support the delivery of video, data, and voice traffic over core, metro, aggregation, and access communications networks. Our solutions are used globally by communications service providers, cable and multiservice operators, Web-scale providers, submarine network operators, governments, and enterprises across multiple industry verticals. Our portfolio is designed to enable the Adaptive Network, which is our vision for a network end state that leverages a programmable and scalable network infrastructure, driven by software control and automation capabilities, that are informed by analytics and intelligence. Our solutions include Networking Platforms, including our Converged Packet Optical and Routing and Switching portfolios, which can be applied from the network core to end-user access points, and which allow network operators to scale capacity, increase transmission speeds, allocate traffic efficiently and adapt dynamically to changing end-user service demands. To complement our Networking Platforms, we offer Platform Software, which includes our Manage, Control and Plan ("MCP") applications that deliver advanced multi-layer domain control and operations. Through our Blue Planet Software we also enable complete service lifecycle management automation with productized open source software (OSS) and service assurance solutions that help our customers to achieve closed loop automation across multi-vendor and multi-domain environments.

Order Volumes

From the second quarter of fiscal 2021 through the third quarter of fiscal 2022, we received an unprecedented volume of orders for our products and services. Our quarterly order volumes during this period significantly exceeded our revenue and historical order volumes, with concentration of orders among certain existing Web-scale and North America-based service provider customers. We believe some portion of these orders reflected customer acceleration of future orders due to lengthened lead times or the implementation of security of supply strategies to address the supply constraints described below. We also believe some portion of these orders reflected pre-pandemic design wins for which orders were delayed due to the dynamics of the COVID-19 pandemic. Our order volumes began to moderate in the fourth quarter of fiscal 2022. We have continued to experience reduced orders relative to revenue in the first half of fiscal 2023 and order volumes lower than those received during the second quarter of fiscal 2021 through the third quarter of fiscal 2022. We believe this reduction has been in part due to customers no longer needing to place significant advanced orders as supply chain conditions and lead times have improved. However, over the longer term, we continue to believe that certain trends and shifts in business and consumer behaviors, including enterprise and consumer cloud network adoption, 5G, high-definition video, generative AI, and network operator focus on resilience and automation, represent positive, long-term opportunities for our business.

Backlog and Order Delivery Timing

Historically, a meaningful portion of our quarterly revenue was generated from customer orders received during that same quarter (which we refer to as "book to revenue") and therefore less predictable and subject to fluctuation. As a result of elevated order volumes in recent prior periods and the supply chain constraints described below, however, we generated a significant backlog of customer orders, and, more recently, our quarterly results have been more significantly impacted by availability of supply, as well as customer delivery deferrals of existing backlog. Our backlog grew from $1.2 billion at the end of fiscal 2020 to $4.2 billion at the end of fiscal 2022. As supply chain conditions have begun to improve and we have been able to increase shipment volumes and reduce lead times, our backlog has decreased during the first half of fiscal 2023. We expect our backlog to continue to reduce during the remainder of fiscal 2023 as supply chain conditions improve and customers place fewer advanced orders. As that happens, we expect our reliance upon securing quarterly book to revenue orders to grow and those orders to represent a more typical composition of our quarterly revenue over time.

The timing and degree to which we fulfill our backlog will have a significant impact on our rate of revenue growth and can be affected by factors outside of our control, including the supply chain conditions and availability of components described below, and customer readiness and willingness to receive shipment against existing orders. Given their elevated order levels in recent prior periods, during the first half of fiscal 2023, certain customers, including communications service providers and cable and multiservice operators in North America and Web-scale providers, rescheduled deliveries of a portion of their existing orders, including in some cases until after the end of fiscal 2023. Accordingly, our results for a particular period can be difficult to predict. As a result of these and other factors, the timing of our fulfillment of backlog could cause some volatility in our results of operations and our backlog should not necessarily be viewed as an accurate indicator of revenue for any particular period. See the risk factors captioned "Our backlog may not be an accurate indicator of our level and timing of future revenues." and "Our revenue, gross margin, and operating results can fluctuate significantly and unpredictably from quarter to quarter." in Item 1A of Part II of this report for further discussion of risks related to our backlog and order delivery timing.

Supply Chain Constraints

In the face of demand across a range of industries, global supply for certain raw materials and components, including, in particular, semiconductor, integrated circuits, and other electronic components used in most of our products, experienced substantial constraint and disruption in recent periods. As a result, we experienced significant component shortages, extended lead times, increased costs, and unexpected cancellation or delay of previously committed supply of key components across our supplier base. While reliability of supply has begun to improve gradually, and the majority of our suppliers have been able to deliver by their promised, though extended, lead times, we continue to experience volatility from a small group of our suppliers of integrated circuit components that represent a small fraction of our overall materials, but which are essential for delivering finished products. This volatility can result in receiving fewer components than expected in a given period, which can adversely impact our revenue. It can also result in receiving more components than expected, as was the case in during the fourth quarter of fiscal 2022 and the first half of fiscal 2023, and which had a positive impact on our revenue. We expect supply chain challenges and the extended lead times and elevated supply chain costs we have experienced will persist at least through fiscal 2023. We expect these supply conditions to continue to impact our costs of goods sold in the near term and to adversely impact our ability to continue to reduce the cost to produce our products in a manner consistent with prior periods. It is unclear when the supply environment will become less volatile and what impacts it will have on our business and results of operations in future periods.

To mitigate the impact of these supply conditions on our business and customers, we have been placing advanced orders for inventory and accumulating components that are in available supply. We believe that this approach positions us to produce finished goods more quickly when supply constraints ease for those components in shorter supply. As a result, our inventory increased from $946.7 million at the end of fiscal 2022 to $1.2 billion at the end of the first quarter of fiscal 2023. As supply chain conditions have begun to improve and we have been able to fulfill more orders, our inventory has decreased to $1.1 billion at the end of the second quarter of fiscal 2023. We have also implemented additional mitigation strategies, including expanding manufacturing capacity, implementing multi-sourcing activities, qualifying alternative parts, and redesigning products, and expect, over time, to realize certain benefits of these activities. Together with increased costs of supply, these mitigation strategies have impacted, and we expect them to continue to impact, our result of operations and cash from operations. See “Risk Factors” in Item 1A of Part II of this report for further discussion of risks related to our supply chain and our mitigation activities.

ABL Credit Facility

On February 10, 2023, we amended our existing ABL Credit Facility (as defined below) to, among other things, extend the maturity date of the ABL Credit Facility to September 28, 2025. See Note 17 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report for more information relating to the amendment of the ABL Credit Facility.

For additional information regarding our business, industry, market opportunity, competitive landscape, and strategy, see our 2022 Annual Report.

Consolidated Results of Operations

Operating Segments

Our results of operations are presented based on the following operating segments: (i) Networking Platforms; (ii) Platform Software and Services; (iii) Blue Planet Automation Software and Services; and (iv) Global Services. See Note 3 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Revenue

Currency Fluctuations

Approximately 15.9% and 15.3% of our revenue was non-U.S. Dollar-denominated during the second quarter and first six months of fiscal 2023, respectively, primarily including sales in Euros, Canadian Dollars, and British Pounds. During the second quarter of fiscal 2023, as compared to the second quarter of fiscal 2022, and during the first six months of fiscal 2023, as compared to the first six months of fiscal 2022, the U.S. Dollar primarily strengthened against these currencies. Consequently, our revenue for the second quarter and first six months of fiscal 2023 reported in U.S. Dollars were adversely impacted by approximately $8.2 million, or 0.7%, and $7.5 million or 0.3%, respectively.

Operating Segment Revenue

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

	Quarter Ended				%*	Six Months Ended				%*
	April 29, 2023		April 30, 2022			April 29, 2023		April 30, 2022		
Revenue:										
Networking Platforms										
Converged Packet Optical	$	784,549	$	625,294	*25.5 %*	$	1,520,183	$	1,166,230	*30.4 %*
*%***		*69.3 %*		*65.8 %*			*69.4 %*		*65.0 %*	
Routing and Switching		130,310		109,186	*19.3 %*		249,814		194,896	*28.2 %*
*%***		*11.5 %*		*11.5 %*			*11.4 %*		*10.9 %*	
Total Networking Platforms		914,859		734,480	*24.6 %*		1,769,997		1,361,126	*30.0 %*
*%***		*80.8 %*		*77.3 %*			*80.8 %*		*75.9 %*	
Platform Software and Services		69,443		69,157	*0.4 %*		142,888		142,074	*0.6 %*
*%***		*6.1 %*		*7.3 %*			*6.6 %*		*7.9 %*	
Blue Planet Automation Software and Services		20,567		16,881	*21.8 %*		35,973		37,992	*(5.3)%*
*%***		*1.8 %*		*1.8 %*			*1.6 %*		*2.1 %*	
Global Services										
Maintenance Support and Training		73,160		74,019	*(1.2)%*		141,051		146,509	*(3.7)%*
*%***		*6.5 %*		*7.8 %*			*6.4 %*		*8.2 %*	
Installation and Deployment		39,486		41,430	*(4.7)%*		74,061		81,800	*(9.5)%*
*%***		*3.5 %*		*4.4 %*			*3.4 %*		*4.6 %*	
Consulting and Network Design		15,140		13,260	*14.2 %*		25,206		24,169	*4.3 %*
*%***		*1.3 %*		*1.4 %*			*1.2 %*		*1.3 %*	
Total Global Services		127,786		128,709	*(0.7)%*		240,318		252,478	*(4.8)%*
*%***		*11.3 %*		*13.6 %*			*11.0 %*		*14.1 %*	
Total revenue	$	1,132,655	$	949,227	*19.3 %*	$	2,189,176	$	1,793,670	*22.1 %*

* Denotes % change from fiscal 2022 to fiscal 2023
** Denotes % of total revenue

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Networking Platforms segment revenue** increased by $180.4 million, reflecting product line sales increases of $159.3 million of our Converged Packet Optical products and $21.1 million of our Routing and Switching products.
    - Converged Packet Optical sales increased, primarily reflecting sales increases of $106.9 million of our 6500 Packet-Optical Platform, primarily to communications service providers, enterprise customers, and government customers, and $76.0 million of our 6500 Reconfigurable Line System (RLS) products, primarily to Web-scale providers and communications service providers, partially offset by a sales decrease of $28.7 million of our Waveserver® products, primarily to Web-scale providers and cable and multiservice operators.
    - Routing and Switching sales increased, primarily reflecting sales increases of $13.9 million of our 3000 and 5000 families of service delivery and aggregation switches, primarily to cable and multiservice operators, and $5.9 million of our 8100 Coherent IP networking, platforms primarily to communications service providers.
- **Platform Software and Services segment revenue** reflects a sales increase of $8.7 million in our subscription software services, primarily to communications service providers, offset by a sales decrease of $8.4 million in sales of software platforms, primarily due to decreased sales of our MCP software platform.
- **Blue Planet Automation Software and Services segment revenue** increased by $3.7 million, primarily reflecting an increase of $3.4 million in software platforms sales primarily to communications service providers.
- **Global Services segment revenue** remained relatively unchanged.

Six months ended April 29, 2023 as compared to the six months ended April 30, 2022

- **Networking Platforms segment revenue** increased by $408.9 million, reflecting product line sales increases of $354.0 million of our Converged Packet Optical products and $54.9 million of our Routing and Switching products.
  - Converged Packet Optical sales increased, primarily reflecting sales increases of $183.7 million of our 6500 Packet-Optical Platform, primarily to communications service providers and enterprise customers, $120.3 million of our 6500 RLS products, primarily to Web-scale providers, and $47.2 million of our Waveserver® products, primarily to Web-scale providers and communications service providers.
  - Routing and Switching sales increased, primarily reflecting sales increases of $32.6 million of our Virtualization Edge software, $13.0 million of our 3000 and 5000 families of service delivery and aggregation switches, primarily to cable and multiservice operators, $7.5 million of our 8100 Coherent IP networking platforms and $7.1 million of our platform independent software, both primarily to communications service providers. The increase in Routing and Switching sales was partially offset by a sales decrease of $8.6 million of our 6500 Packet Transport System (PTS), primarily to government customers and communications service providers.
- **Platform Software and Services segment revenue** reflects a sales increase of $20.0 million in our subscription software services, primarily to communications service providers, offset by a sales decrease of $19.2 million in sales of software platforms, primarily due to decreased sales of our MCP software platform.
- **Blue Planet Automation Software and Services segment revenue** decreased by $2.0 million, primarily reflecting a decrease of $1.6 million in sales of automation software platforms.
- **Global Services segment revenue** decreased by $12.2 million, primarily reflecting sales decreases of $7.7 million of our installation and deployment services and $5.5 million of our maintenance support and training, partially offset by a sales increase of $1.0 million of our consulting and network design services. Installation and deployment services were adversely impacted by the current constrained supply environment, which resulted in delayed delivery of certain products for which installation and deployment services were ordered by customers, as described in more detail in “Overview” above.

Revenue by Geographic Region

Our operating segments engage in business and operations across three geographic regions: the United States, Canada, the Caribbean and Latin America (“Americas”); Europe, Middle East and Africa (“EMEA”); and Asia Pacific, Japan and India (“APAC”). The geographic distribution of our revenue can fluctuate significantly from period to period, and the timing of revenue recognition for large network projects, particularly outside of the United States, can result in large variations in geographic revenue results in any particular period. The increase in our Americas region revenue for the quarter and six months ended April 29, 2023 was primarily driven by increased sales in the United States. The increase in our APAC region revenue for the quarter and six months ended April 29, 2023 was primarily driven by increased sales in India and Australia. The increase in our EMEA region revenue for the quarter and six months ended April 29, 2023 was primarily driven by increased sales in France, Germany and the Netherlands.

The following table reflects our geographic distribution of revenue, principally based on the relevant location for our delivery of products and performance of services. The table sets forth the changes in geographic distribution of revenue for the periods indicated (in thousands, except percentage data):

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Americas	$ 794,359	$ 700,840	*13.3 %*	$ 1,559,455	$ 1,295,984	*20.3 %*
*%***	*70.1 %*	*73.8 %*		*71.2 %*	*72.3 %*	
EMEA	173,414	145,106	*19.5 %*	326,218	295,891	*10.2 %*
*%***	*15.3 %*	*15.3 %*		*14.9 %*	*16.5 %*	
APAC	164,882	103,281	*59.6 %*	303,503	201,795	*50.4 %*
*%***	*14.6 %*	*10.9 %*		*13.9 %*	*11.2 %*	
Total	$ 1,132,655	$ 949,227	*19.3 %*	$ 2,189,176	$ 1,793,670	*22.1 %*

* Denotes % change from fiscal 2022 to fiscal 2023

** Denotes % of total revenue

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Americas revenue** increased by $93.5 million, primarily reflecting a sales increase of $95.9 million within our Networking Platforms segment. This sales increase was partially offset by sales decreases of $1.9 million within our Platform Software and Services segment and $1.3 million within our Blue Planet Automation Software and Services segment. The increase within our Networking Platforms segment reflects product line sales increases of $81.4 million of our Converged Packet Optical products and $14.5 million of our Routing and Switching products. The increase within our Converged Packet Optical product line was primarily related to sales increases of $59.4 million of our 6500 RLS products, primarily to Web-scale providers, and $57.4 million of our 6500 Packet-Optical Platform primarily to communications service providers. These increases were offset by a product line sales decrease of $36.0 million of our Waveserver® products, primarily to communications service providers, cable and multiservice operators and Web-scale providers. The increase within our Routing and Switching product line reflected sales increases of $8.5 million of our 3000 and 5000 families of service delivery and aggregation switches, primarily to cable and multiservice operators, and $5.0 million of our 8100 Coherent IP networking platforms, primarily to communications service providers.
- **EMEA revenue** increased by $28.3 million, primarily reflecting sales increases of $20.0 million within our Networking Platforms segment, $6.7 million within our Blue Planet Automation Software and Services segment, and $2.9 million within our Platform Software and Services segment, partially offset by a sales decrease of $1.3 million within our Global Services segment. The increase within our Networking Platforms segment primarily reflects product line sales increases of $15.0 million of our Converged Packet Optical product line, primarily related to a sales increase of $12.2 million of our 6500 RLS, primarily to Web-scale customers.
- **APAC revenue** increased by $61.6 million, primarily reflecting a sales increase of $64.5 million within our Networking Platforms segment, partially offset by a sales decrease of $1.7 million within our Blue Planet Automation Software and Services segment. The increase within our Networking Platforms segment primarily reflects a product line sales increase of $62.8 million of Converged Packet Optical products, which includes sales increases of $41.7 million of our 6500 Packet-Optical Platform, primarily to communications service provider and enterprise customers.

Six months ended April 29, 2023 as compared to the six months ended April 30, 2022

- **Americas revenue** increased by $263.5 million, primarily reflecting a sales increase of $276.3 million within our Networking Platforms segment. This sales increase was partially offset by sales decreases of $6.5 million within our Global Services segment and $6.2 million within our Blue Planet Automation Software and Services segment. Our Networking Platforms segment revenue increase reflects product line sales increases of $228.6 million of Converged Packet Optical products and $47.7 million of Routing and Switching products. Our Converged Packet Optical revenue primarily reflects sales increases of $102.9 million of our 6500 Packet-Optical Platform primarily to communications service providers, $95.2 million of our 6500 RLS products, primarily to Web-scale providers, and $29.3 million of our Waveserver® products, primarily to Web-scale providers, partially offset by decreased sales to cable and multiservice providers. Routing and Switching product line sales primarily reflect sales increases of $32.6 million of our Virtualization Edge software, $7.7 million of our 3000 and 5000 families of service delivery and aggregation switches, primarily to cable and multiservice operators, and $7.1 million of our platform independent software to communications service providers. These sales increases were offset by a sales decrease of $8.7 million of our 6500 Packet Transport System (PTS) products, primarily to government customers and communications service providers.
- **EMEA revenue** increased by $30.3 million, reflecting sales increases of $25.8 million within our Networking Platforms segment, $6.9 million within our Blue Planet Automation Software and Services segment and $1.4 million within our Platform Software and Services segment. These sales increases were offset by a sales decrease of $3.8 million within our Global Services segment. Our Networking Platforms segment revenue increase primarily reflects product line sales increases of $21.3 million of Converged Packet Optical products, primarily reflecting a sales increase of $18.4 million of our 6500 RLS products, primarily to Web-scale providers.
- **APAC revenue** increased by $101.7 million, primarily reflecting a sales increase of $106.7 million within our Networking Platforms segment. This sales increase was offset by sales decreases of $2.7 million within our Blue Planet Automation Software and Services segment and $1.9 million within our Global Services segment. Our Networking Platforms segment revenue increase primarily reflects a product line sales increase of $104.0 million of Converged Packet Optical products, including a sales increase of $80.5 million of our 6500 Packet-Optical Platform, primarily to communications service providers and enterprise customers.

Cost of Goods Sold and Gross Profit

There are a number of important factors or conditions that can adversely affect or cause our gross profit as a percentage of product or service revenue, or "gross margin," to fluctuate on a quarterly basis. For example, early stages of new network builds also often include an increased concentration of lower margin "common" equipment, photonics sales and installation services, with the intent to improve margin as we sell channel cards and maintenance services to customers as they add capacity. The component elements that comprise our product cost of goods sold and services costs of goods sold, and certain factors that can cause gross margin to fluctuate, are described in detail in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors" sections of our 2022 Annual Report.

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

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Total revenue	$ 1,132,655	$ 949,227	19.3 %	$ 2,189,176	$ 1,793,670	22.1 %
Total cost of goods sold	644,972	547,446	17.8 %	1,245,547	1,007,702	23.6 %
Gross profit	$ 487,683	$ 401,781	21.4 %	$ 943,629	$ 785,968	20.1 %
%**	43.1 %	42.3 %		43.1 %	43.8 %	

* Denotes % change from fiscal 2022 to fiscal 2023

** Denotes % of total revenue

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Product revenue	$ 935,330	$ 759,948	23.1 %	$ 1,813,045	$ 1,424,955	27.2 %
Product cost of goods sold	541,883	452,057	19.9 %	1,042,220	824,622	26.4 %
Product gross profit	$ 393,447	$ 307,891	27.8 %	$ 770,825	$ 600,333	28.4 %
%**	42.1 %	40.5 %		42.5 %	42.1 %	

* Denotes % change from fiscal 2022 to fiscal 2023

** Denotes % of product revenue

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Services revenue	$ 197,325	$ 189,279	4.3 %	$ 376,131	$ 368,715	2.0 %
Services cost of goods sold	103,089	95,389	8.1 %	203,327	183,080	11.1 %
Services gross profit	$ 94,236	$ 93,890	0.4 %	$ 172,804	$ 185,635	(6.9)%
% **	47.8 %	49.6 %		45.9 %	50.3 %	

* Denotes % change from fiscal 2022 to fiscal 2023

** Denotes % of services revenue

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Gross profit** increased by $85.9 million. Gross margin slightly increased by 80 basis points, primarily due to improved manufacturing efficiencies and product cost reductions, partially offset by a higher concentration of lower margin product mix and lower services margins. As supply conditions gradually improve, particularly for lower margin "common" equipment and photonics, we expect our gross margin to be adversely impacted during the remainder of fiscal 2023 as a result of a higher concentration of lower margin product mix. We also expect our gross margin to continue be adversely impacted due to the challenges and costs associated with the constrained supply environment described in "Overview" above.

- **Gross profit on products** increased by $85.6 million. Product gross margin increased by 160 basis points, primarily due to improved manufacturing efficiencies and product cost reductions, partially offset by a higher concentration of lower margin product mix.
- **Gross profit on services** increased by $0.3 million. Services gross margin decreased by 180 basis points, primarily due to lower margin on certain installation and deployment projects and losses incurred on certain Blue Planet software service projects. These decreases were partially offset by increased Platform Software services revenue.

Six months ended April 29, 2023 as compared to the six months ended April 30, 2022

- **Gross profit** increased by $157.7 million. Gross margin slightly decreased by 70 basis points, primarily due to lower services margins and a higher concentration of lower margin product mix, partially offset by product cost reductions and improved manufacturing efficiencies. As supply conditions gradually improve, particularly for lower margin “common” equipment and photonics, we expect our gross margin to continue to be adversely impacted during the remainder of fiscal 2023 as a result of a higher concentration of lower margin product mix. We also expect our gross margin to continue be adversely impacted due to the challenges and costs associated with the constrained supply environment described in “Overview” above.
- **Gross profit on products** increased by $170.5 million. Product gross margin slightly increased by 40 basis points, primarily due to product cost reductions and improved manufacturing efficiencies, partially offset by lower sales of software platforms.
- **Gross profit on services** decreased by $12.8 million. Services gross margin decreased by 440 basis points, primarily due to lower maintenance support revenue, lower margin on certain installation and deployment projects, and losses incurred on certain Blue Planet software service projects. These decreases were partially offset by an increase in Platform Software services revenue.

Operating Expense

Currency Fluctuations

Approximately 49.3% of our operating expense was non-U.S. Dollar-denominated during the second quarter of fiscal 2023, including expenses in Canadian Dollars, Indian Rupees, and Euros. During the second quarter of fiscal 2023, as compared to the second quarter of fiscal 2022, and during the first six months of fiscal 2023, as compared to the first six months of fiscal 2022, the U.S. Dollar primarily strengthened against these currencies. Consequently, our operating expense, net of hedging, reported in U.S. Dollars slightly decreased by approximately $12.0 million, or 3.1%, and $21.8 million, or 2.9%, respectively.

The component elements that comprise each of our operating expense categories in the table below are set forth in the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section of our 2022 Annual Report. The table below sets forth the changes in operating expense for the periods indicated (in thousands, except percentage data):

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Research and development	$ 189,993	$ 159,324	*19.2 %*	$ 371,723	$ 307,733	*20.8 %*
%**	*16.8 %*	*16.8 %*		*17.0 %*	*17.2 %*	
Selling and marketing	125,083	119,939	*4.3 %*	248,890	238,820	*4.2 %*
%**	*11.0 %*	*12.6 %*		*11.4 %*	*13.3 %*	
General and administrative	50,939	45,572	*11.8 %*	101,835	90,070	*13.1 %*
%**	*4.5 %*	*4.8 %*		*4.6 %*	*5.0 %*	
Significant asset impairments and restructuring costs	8,153	9,102	*(10.4)%*	12,451	12,511	*(0.5)%*
%**	*0.7 %*	*1.0 %*		*0.6 %*	*0.7 %*	
Amortization of intangible assets	9,845	8,920	*10.4 %*	17,286	17,838	*(3.1)%*
%**	*0.9 %*	*0.9 %*		*0.8 %*	*1.0 %*	
Acquisition and integration costs	857	495	*73.1 %*	3,415	563	*506.6 %*
%**	*0.1 %*	*0.1 %*		*0.1 %*	*— %*	
Total operating expenses	$ 384,870	$ 343,352	*12.1 %*	$ 755,600	$ 667,535	*13.2 %*
%**	*34.0 %*	*36.2 %*		*34.5 %*	*37.2 %*	

* Denotes % change from fiscal 2022 to fiscal 2023
** Denotes % of total revenue

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Research and development expense** benefited from $7.3 million as a result of foreign exchange rates, net of hedging, primarily due to a stronger U.S. Dollar in relation to the Canadian Dollar and Indian Rupee. Including the effect of foreign exchange rates, net of hedging, research and development expenses increased by $30.7 million. This increase primarily reflects increases in employee headcount and related compensation costs, professional services and technology and related costs. The increase in employee headcount was partially due to our acquisitions of Benu Networks, Inc. ("Benu") and Tibit Communications, Inc. ("Tibit").

- **Selling and marketing expense** benefited from $3.6 million as a result of foreign exchange rates, primarily due to a stronger U.S. Dollar in relation to the Euro and Canadian Dollar. Including the effect of foreign exchange rates, sales and marketing expense increased by $5.1 million. This increase primarily reflects increases in employee headcount and related compensation costs, travel and entertainment costs, facility and information technology costs, and professional services.

- **General and administrative expense** benefited from $1.1 million as a result of foreign exchange rates, primarily due to a stronger U.S. Dollar in relation to the Euro. Including the effect of foreign exchange rates, general and administrative expense increased by $5.4 million. This increase primarily reflects increases in employee headcount and related compensation costs and professional services.

- **Significant asset impairments and restructuring costs** reflects actions that we have taken with respect to our operations, global workforce, and facilities as part of a business optimization strategy to improve gross margin, constrain operating expense, redesign certain business processes, and restructure real estate facilities.

- **Amortization of intangible assets** increased by $0.9 million due to additional intangibles acquired in connection with our acquisitions of Benu and Tibit during the first quarter of fiscal 2023, partially offset by certain intangible assets having reached the end of their economic lives.

- **Acquisition and integration costs** remained relatively unchanged.

Six months ended April 29, 2023 as compared to the six months ended April 30, 2022

- **Research and development expense** benefited from $13.7 million as a result of foreign exchange rates, net of hedging, primarily due to fluctuations in the U.S. Dollar in relation to the Canadian Dollar and Indian Rupee. Including the effect of foreign exchange rates, net of hedging, research and development expenses increased by $64.0 million. This increase primarily reflects increases in employee headcount and related compensation costs, professional services, and technology and related costs. The increase in employee headcount was partially due to our acquisitions of Benu and Tibit. This increase also reflects the effect of a $4.4 million decrease in benefit from the Evolution of Networking Services through a Corridor in Quebec and Ontario for Research and Innovation (ENCQOR) project grant reimbursement program.

- **Selling and marketing expense** benefited from $6.3 million as a result of foreign exchange rates, primarily due to a stronger U.S. Dollar in relation to the Euro and Canadian Dollar. Including the effect of foreign exchange rates, sales and marketing expense increased by $10.1 million. This increase primarily reflects an increase in professional services and travel and entertainment costs, partially offset by a decrease in employee-related compensation costs related to sales commissions.

- **General and administrative expense** benefited from $1.8 million as a result of foreign exchange rates, primarily due to a stronger U.S. Dollar in relation to the Euro and Canadian Dollar. Including the effect of foreign exchange rates, general and administrative expense increased by $11.8 million. This increase primarily reflects increases in employee headcount and related compensation costs, professional services, and bad debt expense.

- **Significant asset impairments and restructuring costs** reflects actions that we have taken with respect to our operations, global workforce, and facilities as part of a business optimization strategy to improve gross margin, constrain operating expense, redesign certain business processes, and restructure real estate facilities.

- **Amortization of intangible assets** reflects certain intangible assets having reached the end of their economic lives, partially offset by additional intangibles acquired in connection with our acquisitions of Benu and Tibit during the first quarter of fiscal 2023.

- **Acquisition and integration costs** increased by $2.9 million and primarily reflect financial, legal, and accounting advisors and employee-related costs related to our acquisitions of Benu and Tibit.

For more information on our acquisitions, see Note 4 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Other Items

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

	Quarter Ended			Six Months Ended		
	April 29, 2023	April 30, 2022	%*	April 29, 2023	April 30, 2022	%*
Interest and other income, net	$ 8,551	$ 808	*958.3 %*	$ 40,524	$ 4,494	*801.7 %*
*%** *	*0.8 %*	*0.1 %*		*1.9 %*	*0.3 %*	
Interest expense	$ 23,889	$ 11,985	*99.3 %*	$ 39,759	$ 20,633	*92.7 %*
*%** *	*2.1 %*	*1.3 %*		*1.8 %*	*1.2 %*	
Provision for income taxes	$ 29,821	$ 8,330	*258.0 %*	$ 54,899	$ 17,549	*212.8 %*
*%** *	*2.6 %*	*0.9 %*		*2.5 %*	*1.0 %*	

* Denotes % change from fiscal 2022 to fiscal 2023
** Denotes % of total revenue

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Interest and other income, net** increased by $7.7 million, primarily resulting from higher interest income on our investments. These increases were partially offset by the impact of foreign exchange rates on assets and liabilities denominated in a currency other than the relevant functional currency, net of hedging activity.
- **Interest expense** increased by $11.9 million, primarily due to higher interest rates on our floating rate debt, net of hedging activity, and additional outstanding indebtedness, including the 2030 Term Loan incurred in the first quarter of fiscal 2023. For more information on our short-term and long-term debt, see Note 16 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.
- **Provision for income taxes** increased by $21.5 million, primarily due to an increase in pre-tax income in the second quarter of fiscal 2023 as compared to the second quarter of fiscal 2022. The effective tax rate for the second quarter of fiscal 2023 was higher than the effective tax rate for the second quarter of fiscal 2022, primarily due to the mandatory capitalization of research and development expenses in the second quarter of fiscal 2023.

Six months ended April 29, 2023 as compared to the six months ended April 30, 2022

- **Interest and other income, net** increased by $36.0 million, primarily resulting from the remeasurement of our previously held investment in Tibit to fair value, which resulted in a gain on our cost method equity investment of $26.5 million, and higher interest income on our investments. These increases were partially offset by the impact of foreign exchange rates on assets and liabilities denominated in a currency other than the relevant functional currency, net of hedging activity. For more information on our acquisitions, see Note 4 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.
- **Interest expense** increased by $19.1 million, primarily due to higher interest rates on our floating rate debt, net of hedging activity, and additional outstanding indebtedness, including our 2030 Notes issued in the first quarter of fiscal 2022 and the 2030 Term Loan incurred in the first quarter of fiscal 2023. For more information on our short-term and long-term debt, see Note 16 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.
- **Provision for income taxes** increased by $37.4 million, primarily due to an increase in pre-tax income in the first six months of fiscal 2023 as compared to the first six months of fiscal 2022. The effective tax rate for the first six months of fiscal 2023 was higher than the effective tax rate for the first six months of fiscal 2022, primarily due to the mandatory capitalization of research and development expenses in the first six months of fiscal 2023.

Segment Profit (Loss)

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

	Quarter Ended				%*	Six Months Ended				%*
	April 29, 2023		April 30, 2022			April 29, 2023		April 30, 2022		
Segment profit (loss):										
Networking Platforms	$	214,754	$	152,769	*40.6 %*	$	416,901	$	286,894	*45.3 %*
Platform Software and Services	$	40,687	$	43,556	*(6.6)%*	$	86,337	$	93,052	*(7.2)%*
Blue Planet Automation Software and Services	$	(6,912)	$	(6,520)	*6.0 %*	$	(17,971)	$	(7,554)	*137.9 %*
Global Services	$	49,161	$	52,652	*(6.6)%*	$	86,639	$	105,843	*(18.1)%*

* Denotes % change from fiscal 2022 to fiscal 2023

Quarter ended April 29, 2023 as compared to the quarter ended April 30, 2022

- **Networking Platforms segment** profit increased by $62.0 million, primarily due to higher sales volume and higher gross margin as described above, partially offset by increased research and development costs.
- **Platform Software and Services segment** profit decreased by $2.9 million, primarily due to lower software sales volume, as described above, and increased research and development costs.
- **Blue Planet Automation Software and Services segment** reflects increased research and development costs and lower gross margin on software-related services, partially offset by higher software sales volume.
- **Global Services segment** profit decreased by $3.5 million, primarily due to lower gross margin on installation and deployment services as described above.

Six *months ended April 29, 2023 as compared to the* six *months ended April 30, 2022*

- **Networking Platforms segment** profit increased by $130.0 million, primarily due to higher sales volume and higher gross margin as described above, partially offset by increased research and development costs.
- **Platform Software and Services segment** profit decreased by $6.7 million, primarily due to lower software sales volume, as described above, lower gross margin on software-related services, and increased research and development costs.
- **Blue Planet Automation Software and Services segment** loss increased by $10.4 million, primarily due to lower gross margin on software-related services, increased research and development costs, and lower software sales volume.
- **Global Services segment** profit decreased by $19.2 million, primarily due to lower maintenance support revenue and increased installation and deployment costs as described above.

Liquidity and Capital Resources

Overview. For the six months ended April 29, 2023, we used $35.8 million of cash in operating activities as our working capital requirements of approximately $310.6 million exceeded our net income (adjusted for non-cash charges) of approximately $274.8 million. For additional details, see "Cash Used In Operating Activities" below.

Despite our cash used in operations, our total cash, cash equivalents, and investments increased by $159.7 million during the first six months of fiscal 2023. This increase principally reflects proceeds from the issuance of the 2030 Term Loan, which provided $492.7 million in cash, net of paid debt issuance costs, and proceeds from the issuance of equity under our employee stock purchase plan which provided $14.7 million in cash during the six months ended April 29, 2023. In addition to the cash used in operations, uses of cash also included the following items: (i) cash used for the acquisition of businesses of $230.0 million; (ii) cash used to fund our investing activities for capital expenditures totaling $58.0 million; and (iii) stock repurchases on vesting of our stock unit awards to employees relating to tax withholding of $22.0 million.

See Notes 4, 16 and 20 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report for additional information on these transactions.

The following table sets forth changes in our cash, cash equivalents and investments in marketable debt securities for the periods indicated (in thousands):

	April 29, 2023	October 29, 2022	Increase (decrease)
Cash and cash equivalents	$ 1,167,695	$ 994,352	$ 173,343
Short-term investments in marketable debt securities	150,464	153,989	(3,525)
Long-term investments in marketable debt securities	25,237	35,385	(10,148)
Total cash, cash equivalents, and investments in marketable debt securities	$ 1,343,396	$ 1,183,726	$ 159,670

Principal Sources of Liquidity. Our principal sources of liquidity on hand include our cash, cash equivalents, and investments, which, as of April 29, 2023 totaled $1.3 billion, 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 $300.0 million with a maturity date of September 28, 2025, as modified on February 10, 2023. See Note 17 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report. 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 29, 2023, letters of credit totaling $89.7 million were collateralized by our ABL Credit Facility. There were no borrowings outstanding under the ABL Credit Facility as of April 29, 2023.

Foreign Liquidity. Cash, cash equivalents, and short-term investments held by our foreign subsidiaries was $304.4 million as of April 29, 2023. We intend to reinvest indefinitely our foreign earnings. If we were to repatriate the accumulated historical foreign earnings, the provisional amount of unrecognized deferred income tax liability related to foreign withholding taxes would be approximately $35.0 million.

Stock Repurchase Authorization. On December 9, 2021, we announced that our Board of Directors authorized a program to repurchase up to $1.0 billion of our common stock, which replaced in its entirety the previous stock repurchase program authorized in fiscal 2019. During the first six months of fiscal 2023, we did not repurchase any additional common stock under the stock repurchase program, and $500.0 million remained under the current repurchase authorization as of April 29, 2023. The amount and timing of any further repurchases under our stock repurchase program 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. See Note 20 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Liquidity Position. 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 currently anticipated working capital needs, capital expenditures, and other liquidity requirements associated with our operations through the next 12 months and the reasonably foreseeable future. We regularly evaluate our liquidity position, debt obligations, and anticipated cash needs to fund our operating or investment plans, and will continue to consider capital raising and other market opportunities that may be available to us. We regularly evaluate alternatives to manage our capital structure and market opportunities to enhance our liquidity and provide further operational and strategic flexibility.

Cash Used In Operating Activities

The following sections set forth the components of our $35.8 million of cash used in operating activities during the first six months of fiscal 2023:

Net income (adjusted for non-cash charges)

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

		Six Months Ended April 29, 2023
Net income	$	133,895
Adjustments for non-cash charges:		
Depreciation of equipment, building, furniture and fixtures, and amortization of leasehold improvements		45,903
Share-based compensation expenses		62,372
Amortization of intangible assets		23,600
Deferred taxes		(2,134)
Provision for inventory excess and obsolescence		12,691
Provision for warranty		13,577
Gain on cost method equity investment		(26,455)
Other		11,331
Net income (adjusted for non-cash charges)	$	274,780

Working Capital

We used $310.6 million of cash for working capital during the period. The following table sets forth the major components of the cash used in working capital (in thousands):

		Six Months Ended April 29, 2023
Cash used in accounts receivable	$	(116,914)
Cash used in inventories		(162,143)
Cash used in prepaid expenses and other		(41,511)
Cash used in accounts payable, accruals, and other obligations		(55,754)
Cash provided by deferred revenue		68,818
Cash used in operating lease assets and liabilities, net		(3,104)
Total cash used for working capital	$	(310,608)

As compared to the end of fiscal 2022:

- The $116.9 million of cash used in accounts receivable during the first six months of fiscal 2023 reflects increased sales volume at the end of the second quarter of fiscal 2023;
- The $162.1 million of cash used in inventories during the first six months of fiscal 2023 primarily reflects increases in raw materials inventory related to the steps that we are taking to mitigate the impact of current supply chain constraints and the global market shortage of semiconductor parts described in “Overview” above;
- The $41.5 million of cash used in prepaid expense and other during the first six months of fiscal 2023 primarily reflects increases in contract assets and other non-trade receivables;
- The $55.8 million of cash used in accounts payable, accruals, and other obligations during the first six months of fiscal 2023 primarily reflects payments to suppliers, partially offset by increases in income taxes payable;
- The $68.8 million of cash provided by deferred revenue during the first six months of fiscal 2023 represents an increase in advanced payments received on multi-year maintenance contracts from customers prior to revenue recognition; and
- The $3.1 million of cash used in operating lease assets and liabilities, net, during the first six months of fiscal 2023 represents cash paid for operating lease payments in excess of operating lease costs.

Our days sales outstanding (“DSOs”) increased from 86 for first six months of fiscal 2022 to 100 for the first six months of fiscal 2023. The calculation of DSOs includes accounts receivables, net and contract assets for unbilled receivables, net included in prepaid expenses and other. Our inventory turns decreased from 3.1 for the first six months of fiscal 2022 to 1.9 for the first six months of fiscal 2023 due to the increases in inventory as described in “Overview” above.

Cash Paid for Interest, Net

The following table sets forth the cash paid for interest, net, during the period (in thousands):

	Six Months Ended April 29, 2023
Term Loan due September 28, 2025[(1)]	$ 20,413
Term Loan due January 31, 2030[(2)]	8,945
Senior Notes due January 31, 2030[(3)]	8,000
Interest rate swaps[(4)]	(2,979)
ABL Credit Facility[(5)]	1,070
Finance leases	2,065
Cash paid during period	$ 37,514

[(1)] Interest on the 2025 Term Loan is payable periodically based on the interest period selected for borrowing. The 2025 Term Loan bore interest at LIBOR for the chosen borrowing period plus a spread of 1.75% subject to a minimum LIBOR rate of 0.00% through its amendment on January 19, 2023. The 2025 Term loan now bears interest at SOFR for the chosen borrowing period plus a spread of 1.75% subject to a minimum SOFR rate of 0.00%. At the end of the second quarter of fiscal 2023, the interest rate on the 2025 Term Loan was 6.69%.

[(2)] Interest on the 2030 Term Loan is payable periodically based on the interest period selected for borrowing. The 2030 Term Loan bears interest at SOFR for the chosen borrowing period plus a spread of 2.50% subject to a minimum SOFR rate of 0.00%. At the end of the second quarter of fiscal 2023, the interest rate on the 2030 Term Loan was 7.44%.

[(3)] The 2030 Notes bear interest at a rate of 4.00% per annum and mature on January 31, 2030. Interest is payable on the 2030 Notes in arrears on January 31 and July 31 of each year.

[(4)] The interest rate swaps and the basis swap fix the SOFR rate for $350.0 million of the 2025 Term Loan at 2.883% through September 2023. In addition, the 2028 interest rate swaps fix the SOFR rate for $350.0 million of the 2030 Term Loan at 3.47% through January 2028.

[(5)] During the first six months of fiscal 2023, we utilized the ABL Credit Facility to collateralize certain standby letters of credit and paid $1.1 million in commitment fees, interest expense, and other administrative charges relating to the ABL Credit Facility.

For additional information about our debt, ABL Credit Facility and interest rate swaps, see Notes 15, 16 and 17 to our Condensed Consolidated Financial Statements included in Item 1 of Part I of this report.

Contractual Obligations

Our contractual obligations have not changed materially since October 29, 2022, except for the items listed below. For a summary of our contractual obligations, see Item 7 of Part II of the 2022 Annual Report.

Purchase Order Obligations. As of April 29, 2023 we had $2.2 billion in outstanding purchase order commitments to our contract manufacturers and component suppliers for inventory. In certain instances, we are permitted to cancel, reschedule, or adjust these orders. Consequently, only a portion of this amount relates to firm, non-cancelable, and unconditional obligations.

Debt. As of April 29, 2023, we had $500.0 million outstanding principal associated with our 2030 Term Loan, with $5.0 million payable within 12 months. Interest on the 2030 Term Loan and payments due under the interest rate swaps are variable and calculated using the rate in effect on the balance sheet date. Future interest payments associated with the 2030 Term Loan total $238.4 million, with $30.1 million payable within 12 months. For additional information about the 2030 Term Loan, see Note 16 to our Condensed Consolidated Financial Statements included in Item I of Part I of this report.

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 revenue recognition, 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 materially 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 29, 2022. For a discussion of our critical accounting policies and estimates, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our 2022 Annual 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

We are exposed to market risk related to changes in interest rates and foreign currency exchange rates. For a discussion of quantitative and qualitative disclosures about market risk, see Item 7A of Part II of our 2022 Annual Report.

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 heading "Litigation" in Note 23 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 information contained in this report and in our 2022 Annual Report, including the risk factors identified in Item 1A of Part I thereof (Risk Factors). This report contains forward-looking statements that involve risks and uncertainties. See "Cautionary Note Regarding Forward-Looking Statements" in "Management's Discussion and Analysis of Financial Conditions and Results of Operations" above. Our actual results could differ materially from those contained in the forward-looking statements. Any of the risks discussed in our 2022 Annual Report, in this report, in other reports we file with the SEC, and other risks we have not anticipated or discussed, could have a material adverse impact on our business, financial condition, or results of operations. Except as set forth below, there has been no material change to our Risk Factors from those presented in our 2022 Annual Report.

Our revenue, gross margin, and operating results can fluctuate significantly and unpredictably from quarter to quarter.

Our revenue, gross margin, and results of operations can fluctuate significantly and unpredictably from quarter to quarter. Our budgeted expense levels are based on our visibility into customer spending plans and our projections of future revenue and gross margin. Visibility into customer spending levels can be uncertain, spending patterns are subject to change, and reductions in our expense levels can take significant time to implement. Historically, a significant portion of our quarterly revenue was generated from customer orders received during that same quarter (which we refer to as “book to revenue”) and therefore less predictable and subject to fluctuation due to a quarterly shortfall in orders from expectations. During fiscal 2022, however, we generated a significant backlog of customer orders, and more recently, our quarterly results have been more significantly impacted by availability of supply, as well as customer delivery deferrals of existing backlog. Given their elevated order levels in prior periods, during the first half of fiscal 2023, certain customers, including communications service providers and cable and multiservice operators in North America and Web-scale providers, have rescheduled deliveries of existing orders, including in some cases until after the end of fiscal 2023. We expect our backlog to continue to reduce during the remainder of fiscal 2023 as supply chain conditions improve and customers place fewer advanced orders. As that happens, we expect our reliance upon securing quarterly book to revenue orders to grow and those orders to represent a more typical composition of our quarterly revenue over time. However, within these dynamics, our results for a particular period can be difficult to predict. These dynamics, as well as a range of factors, including those set forth below, can materially adversely affect quarterly revenue, gross margin, and operating results:

- changes in spending levels or network deployment plans by customers, particularly with respect to our service provider and Web-scale provider customers;
- order timing and volume, including book to revenue orders;
- the timing of revenue recognition on sales, particularly relating to large orders;
- availability of components and manufacturing capacity;
- shipment and delivery timing;
- backlog levels;
- the level of competition and pricing pressure in our industry;
- the pace and impact of price erosion that we regularly encounter in our markets;
- the impact of commercial concessions or unfavorable commercial terms required to maintain incumbency or secure new opportunities with key customers;
- the mix of revenue by product segment, geography, and customer in any particular quarter;
- our level of success in achieving targeted cost reductions and improved efficiencies in our supply chain;
- our incurrence of start-up costs, including lower margin phases of projects required to support initial deployments, gain new customers or enter new markets;
- our level of success in accessing new markets and obtaining new customers;
- long- and short-term changing behaviors or customer needs that impact demand for our products and services or the products and services of our customers;
- technology-based price compression and our introduction of new platforms with improved price for performance;
- changing market, economic, and political conditions, including the impact of tariffs and other trade restrictions or efforts to withdraw from or materially modify international trade agreements;
- factors beyond our control such as natural disasters, climate change, acts of war or terrorism, and public health emergencies, such as the COVID-19 pandemic;
- the financial stability of our customers and suppliers;
- consolidation activity among our customers, suppliers. and competitors;
- installation service availability and readiness of customer sites;
- adverse impact of foreign exchange; and
- seasonal effects in our business.

As a result of these factors and other conditions affecting our business and operating results, we believe that quarterly comparisons of our operating results are not necessarily a good indication of possible future performance. Quarterly fluctuations from the above factors may cause our revenue, gross margin, and results of operations to underperform in relation to our guidance, long-term financial targets or the expectations of financial analysts or investors, which may cause volatility or decreases in our stock price.

Our backlog may not be an accurate indicator of our level and timing of future revenues.

As a result of order volumes growth in prior periods, together with supply chain constrains, our backlog grew from $1.2 billion at the end of fiscal 2020 to $4.2 billion at the end of fiscal 2022. However, our order volumes began to moderate in the fourth quarter of fiscal 2022. We expect order volumes to continue to moderate and normalize over time and we do not expect the very high level of orders we experienced in earlier periods in fiscal 2021 and fiscal 2022 to continue in the long-term. As order growth moderates and supply chain conditions improve, we expect our backlog to reduce, which was the case in the first half of fiscal 2023. Backlog may be fulfilled several quarters following receipt of a purchase order, either due to customer schedules or delays caused by supply chain constraints. Generally, our customers may cancel, delay delivery or change their orders with limited advance notice, or they may decide not to accept our products and services, although instances of both cancellation and non-acceptance have been rare historically. Backlog also includes certain service obligations that may relate to a multi-year support period. As a result, backlog should not necessarily be viewed as an accurate indicator of future revenue for any particular period.

Accurately matching necessary inventory levels to customer demand within the current environment is challenging, and we may incur additional costs or be required to write off significant inventory that would adversely impact our results of operations.

From the second quarter of fiscal 2021 through the third quarter of fiscal 2022, we received unprecedented orders for our products and services, and matching necessary inventory to fulfill that demand within the current supply constrained environment is challenging. We have taken and continue to take a number of steps to mitigate these challenges, including extending our purchase commitments and placing non-cancellable, advanced orders with or through suppliers, particularly for long lead time components. As of April 29, 2023 we had $2.2 billion in outstanding purchase order commitments to our contract manufacturers and component suppliers for inventory. We have also been expanding our manufacturing capacity and have been accumulating raw materials inventory of components that are available, in some cases with expanded lead times, in an effort to prepare us to be able to produce finished goods more quickly when supply constraints ease for certain common components, including integrated circuit components, for which delivery continues to be delayed. As a result of this strategy, our inventory has increased from $374.3 million at the end of fiscal 2021 to $1.1 billion at the end of the second quarter of fiscal 2023. These inventory practices, and their associated costs, have had, and we expect them to continue to have, an adverse impact on our cash from operations.

These inventory practices also further introduce obsolescence risk that can impact our results of operations and financial condition. If our customers were to cancel or delay orders as a result of increased lead times or otherwise, inventory could become obsolete and we could be required to write off or write down the inventory associated with those orders. In addition, if customers were to cancel or delay existing or forecasted orders for which we have significant outstanding commitments to our contract manufacturers or suppliers, we may be required to purchase inventory under these commitments that we are unable to sell. If we are required to write off or write down a significant amount of inventory, our results of operations for the applicable period would be materially adversely affected. Our inability to effectively manage the matching of inventory with customer demand within the current environment could adversely impact our results of operations and financial condition, and could result in loss of revenue, increased costs, or delays that could adversely impact customer satisfaction.

We rely on third-party contract manufacturers, and our business and results of operations may be adversely affected by risks associated with their businesses, financial condition, and the geographies in which they operate.

We rely on third-party contract manufacturers, including those with facilities in Canada, Mexico, Thailand, and the United States, to perform a substantial portion of our supply chain activities, including component sourcing, manufacturing, product testing and quality, and fulfillment and logistics relating to the distribution and support of our products. There are a number of risks associated with our dependence on contract manufacturers, including:

- reduced control over delivery schedules and planning;
- reliance on the quality assurance procedures of third parties;
- potential uncertainty regarding manufacturing yields and costs;
- availability of manufacturing capability and capacity, particularly during periods of high demand;
- the impact of wage inflation and labor shortages on cost;
- the impact of supply chain constraints on our contract manufacturers' costs and business models;
- risks associated with the ability of our contract manufacturers to perform to our manufacturing needs;
- risks and uncertainties associated with the locations or countries where our products are manufactured, including potential manufacturing disruptions caused by social, geopolitical, environmental, or health factors, including pandemics or widespread health epidemics such as the COVID-19 pandemic;
- risks associated with data security breaches, interdiction, or cyber-attacks targeting our third-party manufacturers, including manufacturing disruptions or unauthorized access to information;
- changes in law or policy governing tax, trade, manufacturing, development, and investment in the countries where we currently manufacture our products, including the World Trade Organization Information Technology Agreement or other free trade agreements;
- inventory liability for excess and obsolete supply;
- limited warranties provided to us; and
- potential misappropriation of our intellectual property.

If our contract manufacturers are unable or unwilling to manufacture our products or components of our products, or if we experience a disruption in manufacturing, we may be required to identify and qualify alternative manufacturers, which could cause us to be delayed in or unable to meet our supply requirements to our customers. The process of qualifying a new contract manufacturer and commencing volume production is expensive and time-consuming, and if we are required to change or qualify a new contract manufacturer, we would likely experience significant business disruption and could lose revenue and damage our existing customer relationships. These and other risks associated with our contract manufacturers' businesses, financial condition, and the geographies in which they operate could impair our ability to fulfill orders, harm our sales and impact our reputation with customers in ways that adversely impact our business and results of operations.

Outstanding indebtedness under our senior secured credit facilities and senior unsecured notes may adversely affect our liquidity and results of operations and could limit our business.

We are a party to credit agreements relating to a $300.0 million senior secured asset-based revolving credit facility, an outstanding senior secured term loan with approximately $672.2 million due 2025, an outstanding senior secured term loan with approximately $500.0 million due 2030, and an outstanding senior unsecured indenture pursuant to which we issued $400.0 million in aggregate principal amount of 4.00% senior notes due 2030. The agreements governing these credit facilities contain certain covenants that limit our ability, among other things, to incur additional debt, create liens and encumbrances, pay cash dividends, redeem or repurchase stock, enter into certain acquisition transactions or transactions with affiliates, repay certain indebtedness, make investments, or dispose of assets. The agreements also include customary remedies, including the right of the lenders to take action with respect to the collateral securing the loans, that would apply should we default or otherwise be unable to satisfy our debt obligations.

Our indebtedness could have important negative consequences, including:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing, particularly in unfavorable capital and credit market conditions;
- debt service and repayment obligations that may adversely impact our results of operations and reduce the availability of cash resources for other business purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business and the markets; and
- placing us at a possible competitive disadvantage to competitors that have better access to capital resources.

We may also enter into additional debt transactions or credit facilities, including equipment loans, working capital lines of credit, senior notes, and other long-term debt, which may increase our indebtedness and result in additional restrictions on our business. In addition, major debt rating agencies regularly evaluate our debt based on a number of factors. There can be no assurance that we will be able to maintain our existing debt ratings, and failure to do so could adversely affect our cost of funds, liquidity and access to capital markets.

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

None.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

10.1	First Amendment to ABL Credit Agreement, dated February 10, 2023, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc., and Ciena Canada ULC, as borrowers, Ciena Communications International, LLC and Blue Planet Software, Inc., as guarantors, the lenders party thereto, and Bank of America, N.A., as administrative agent (incorporated by reference from Exhibit 10.1 to Ciena's Current Report on Form 8-K, filed with the SEC on February 15, 2023)
10.2	Form of Director Restricted Stock Unit Agreement for Ciena Corporation 2017 Omnibus Incentive Plan*
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	Inline XBRL Instance Document - The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Represents management contract or compensatory plan or arrangement

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 7, 2023	By:	/s/ Gary B. Smith
		Gary B. Smith President, Chief Executive Officer and Director (Duly Authorized Officer)
Date: June 7, 2023	By:	/s/ James E. Moylan, Jr.
		James E. Moylan, Jr. Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)

CIENA CORPORATION
2017 OMNIBUS INCENTIVE PLAN

RESTRICTED STOCK UNIT AGREEMENT

Ciena Corporation, a Delaware corporation, (the "Company"), hereby grants restricted stock units ("Restricted Stock Units") relating to shares of its common stock, $0.01 par value (the "Stock"), to the individual named below as the Grantee, subject to the vesting and other terms and conditions set forth on this Restricted Stock Unit Agreement, including the attached terms and conditions (together, the "Agreement"). This grant is subject to the terms and conditions set forth in (i) this Agreement, (ii) the Ciena Corporation 2017 Omnibus Incentive Plan (as it may be amended from time to time, the "Plan"), and (iii) the grant details for this award contained in your account with the Company's selected broker. Capitalized terms not defined in this Agreement are defined in the Plan and have the meaning set forth in the Plan.

Grant Date: ____________________________

Grant Number: ____________________________

Name of Grantee: ____________________________

Grantee's Employee Identification Number:____________________________

Number of Restricted Stock Units Covered by Grant:____________________________

Vesting Schedule:

This grant will vest in full on the first anniversary of the date of grant, subject to your continued Service on behalf of the Company.

By accepting this grant (whether by signing this Agreement or accepting the grant electronically via the website of the Company's selected broker), you agree to the terms and conditions in this Agreement and in the Plan and agree that the Plan will control in the event any provision of this Agreement should appear to be inconsistent unless otherwise stated herein.

Grantee: ______________________________
(Signature)

Ciena Corporation: ____________________________________
Name: Sheela Kosaraju
Title: Senior Vice President, General Counsel and Assistant Secretary

CIENA CORPORATION
2017 OMNIBUS INCENTIVE PLAN

RESTRICTED STOCK UNIT AGREEMENT
TERMS AND CONDITIONS

Restricted Stock Unit Transferability	This grant is an award of Restricted Stock Units in the number of Restricted Stock Units set forth on the first page of this Agreement, subject to the vesting conditions described in this Agreement. Your Restricted Stock Units may not be transferred, assigned, pledged, or hypothecated, whether by operation of Applicable Law or otherwise, nor may the Restricted Stock Units be made subject to execution, attachment, or similar process.
Vesting	Your Restricted Stock Units will vest as indicated on the first page of this Agreement, provided you remain in Service on the applicable vesting date and meet any applicable vesting requirements set forth in this Agreement. Notwithstanding the foregoing, in the event that you do not stand for re-election at the Company's next annual meeting, your Restricted Stock Units will vest on the earlier of (i) the first anniversary of the date of grant; and (ii) the date of the Company's next annual meeting. Any resulting fractional shares shall be rounded up to the nearest whole share; provided, that you may not vest in more than the number of Restricted Stock Units set forth on the cover sheet of this Agreement. Except as provided in this Agreement, or in any other agreement between you and the Company, no additional Restricted Stock Units will vest after your Service has terminated.
Share Delivery Pursuant to Vested Restricted Stock Units; Withholding Tax	Shares of Stock underlying the vested portion of the Restricted Stock Units will be delivered to you by the Company as soon as practicable following the applicable vesting date for those shares, but in no event beyond 2½ months after the end of the calendar year in which the shares would have been otherwise delivered. On the vesting date (or as soon as practicable thereafter), a brokerage account in your name will be credited with shares of Stock representing the number of shares that vested under this grant (the "Vested Shares") net of any Tax-Related Items (as defined below), as applicable. If the vesting date is not a trading day, the Vested Shares will be delivered on the next trading day. The Company will determine the number of the Vested Shares necessary to cover the amount of federal, state, local, and foreign taxes that the Company is required to withhold with respect to the Restricted Stock Unit vesting, rounding up to the nearest whole Share of Stock (the "Withholding Shares").

Regardless of any action the Company or the Affiliate to whom you provide Services (the "Employer") takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related items related to the Restricted Stock Units and/or your participation in the Plan and legally applicable to you ("Tax-Related Items"), you acknowledge that the ultimate liability for all Tax-Related Items is and remains your responsibility and may exceed the amount actually withheld by the Company or the Employer, if any. You further acknowledge that the Company and/or the Employer (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Restricted Stock Units, including, but not limited to, the grant, vesting, or settlement of the Restricted Stock Units, the issuance of shares of Stock upon settlement of the Restricted Stock Units, the subsequent sale of shares of Stock acquired pursuant to such issuance and the receipt of any dividends and/or any dividend equivalents; and (2) do not commit to and are under no obligation to structure the terms of the award or any aspect of the Restricted Stock Units to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. Further, if you have become subject to tax in more than one jurisdiction, you acknowledge that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

By accepting this award, you authorize the Company and/or the Employer, or their respective agents, at their discretion, to satisfy any applicable withholding obligations with regard to all Tax-Related Items by one or a combination of the following: (a) withholding from your wages or other cash compensation paid to you by the Company and/or the Employer; (b) withholding from proceeds of the sale of Vested Shares either through a voluntary sale or through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization without further consent) (an "Automatic Sale"); or (c) withholding shares of Stock to be issued upon vesting of the Restricted Stock Units, provided, however, that if you are a Section 16 reporting person of the Company under the Act, as amended, then the Company will withhold in shares of Stock under this subsection (c) upon the relevant taxable or tax withholding event, as applicable, unless the use of such withholding method is problematic under applicable tax or securities law or has material adverse accounting consequences, in which case, the obligation for Tax-Related Items may be satisfied by one or a combination of methods (a) and (b) above; or (d) any other method of withholding determined by the Company and permitted by applicable law.

You further acknowledge that, in the event of an Automatic Sale, this irrevocable written instruction is intended to constitute an instruction pursuant to Rule 10b5-1 of the Exchange Act with the Automatic Sale intended to comply with these requirements. As such, all provisions hereof shall be interpreted consistent with Rule 10b5-1 and shall be automatically modified to the extent necessary to comply therewith. The Company shall be responsible for the payment of any brokerage commissions relating to any Automatic Sale.

	Depending on the withholding method, the Company may withhold or account for Tax-Related Items by considering applicable minimum statutory withholding rates or other applicable withholding rates, including maximum applicable rates in your jurisdiction(s) to the extent permitted by the Plan, in which case you may receive a refund of any over-withheld amount in cash and will have no entitlement to the equivalent in Stock. If the obligation for Tax-Related Items is satisfied by withholding in shares of Stock, for tax purposes, you are deemed to have been issued the full number of shares of Stock subject to the Vested Shares, notwithstanding that a number of the shares of Stock are held back solely for the purpose of paying the Tax-Related Items due as a result of any aspect of your participation in the Plan. The Company may refuse to issue or deliver the shares of Stock or the proceeds of the sale of shares of Stock, if you fail to comply with your obligations in connection with the Tax-Related Items.
Forfeiture of Unvested Restricted Stock Units	Except as specifically provided in this Agreement or as may be provided in other agreements between you and the Company, no additional Restricted Stock Units will vest after your Service has terminated for any reason, and you will forfeit to the Company all of the Restricted Stock Units that have not yet vested or with respect to which all applicable restrictions and conditions have not lapsed upon such termination of your Service.
Deferral of Compensation	Delivery of shares underlying any award of Restricted Stock Units and treatment hereunder shall be subject to any deferral election validly made by eligible participants under the Ciena Corporation Deferred Compensation Plan or any successor plan.
Death	If your Service terminates because of your death, the unvested Restricted Stock Units granted under this Agreement shall accelerate and become immediately vested in full upon the date of your death.
Disability	If your Service terminates because of your Disability, the unvested Restricted Stock Units granted under this Agreement shall accelerate and become immediately vested in full upon your termination on account of Disability.
Retirement	If your Service terminates because of your retirement (in accordance with such guidelines as approved by the Board), the unvested Restricted Stock Units granted under this Agreement shall accelerate and become immediately vested in full upon the date of your retirement.
Corporate Transaction	Upon or in connection with a Corporate Transaction, your unvested Restricted Stock Units shall accelerate and become immediately vested in full upon the effective date of the Corporate Transaction.

Termination For Cause

If your Service is terminated for Cause, then you shall immediately forfeit all rights to your Restricted Stock Units, and this award shall immediately terminate.

Leaves of Absence

For purposes of this grant, your Service does not terminate when you go on a *bona fide* leave of absence approved by the Company, if the terms of your leave provide for continued Service crediting, or when continued Service crediting is required by Applicable Law. The Company will determine, in its sole discretion, whether and when a leave of absence constitutes a termination of Service under the Plan.

Retention Rights

Neither your Restricted Stock Units nor this Agreement give you the right to be retained by the Company or any Affiliate in any capacity, and your Service may be terminated at any time and for any reason.

Shareholder Rights

You have no rights as a shareholder unless and until the shares of Stock relating to the Restricted Stock Units have been issued to you (or an appropriate book entry has been made). Except as described in the Plan or herein, no adjustments are made for dividends or other rights if the applicable record date occurs before your shares of Stock are issued (or an appropriate book entry has been made).

If the Company pays a dividend on its shares of Stock, you will, however, be entitled to receive a cash payment equal to the per-share dividend paid on the shares of Stock times the number of Restricted Stock Units that you hold as of the record date for the dividend; provided, however, such Dividend Equivalents Rights shall not vest or become payable unless and until the Restricted Stock Units to which the Dividend Equivalent Rights correspond become vested and nonforfeitable pursuant to this Agreement or the Plan.

Applicable Law

The Restricted Stock Units and the provisions of this Agreement are governed by, and subject to, the laws of the State of Delaware, without regard to the conflict of law provisions.

For purposes of litigating any dispute that arises under this award or the Agreement, the parties hereby submit to and consent to the jurisdiction of the State of Delaware, and agree that such litigation shall be conducted in the state courts of Delaware, or the federal courts for the District of Delaware, and no other courts, where this grant is made and/or to be performed. ***You agree to waive your rights to a jury trial for any claim or cause of action based upon or arising out of this Agreement or the Plan.***

Data Privacy	In order to administer the Plan, the Company may process personal data about you. Such data includes the information provided in this Agreement, other appropriate personal and financial data about you, such as home address, email address and business addresses and other contact information, payroll information, social security or social insurance number, passport number or other identification number, and any other information deemed appropriate by the Company to facilitate the administration of the Plan. By accepting this Restricted Stock Unit award, you consent to the Company's processing of such personal data and the transfer of such data outside the country in which you work or are employed, including, with respect to non-U.S. residents, to the United States, to transferees who shall include the Company and other persons designated by the Company to administer the Plan.
Consent to Electronic Delivery	Certain statutory materials relating to the Plan have been delivered to you in electronic form. By accepting this grant, you consent to electronic delivery and acknowledge receipt of these materials, including the Plan and Plan prospectus.
Non-U.S. Residents	If you are a non-U.S. resident, additional terms and conditions with respect to your award may apply as set forth on the Stock Administration page of the Go/Ciena intranet.

This Agreement is not a stock certificate or a negotiable instrument.

CIENA CORPORATION
CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Gary B. Smith, certify that:

1. I have reviewed this quarterly report of Ciena Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Dated: June 7, 2023

/s/ Gary B. Smith

Gary B. Smith
President and Chief Executive Officer

CIENA CORPORATION

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, James E. Moylan, Jr., certify that:

1. I have reviewed this quarterly report of Ciena Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: June 7, 2023

/s/ James E. Moylan, Jr.

James E. Moylan, Jr.
Senior Vice President and Chief Financial Officer

CIENA CORPORATION

Written Statement of Chief Executive Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

The undersigned, the Chief Executive Officer of Ciena Corporation (the “Company”), hereby certifies that, to his knowledge, on the date hereof:

(a) the Report on Form 10-Q of the Company for the quarter ended April 29, 2023 filed on the date hereof with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

/s/ Gary B. Smith

Gary B. Smith
President and Chief Executive Officer
June 7, 2023

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Ciena Corporation and will be retained by Ciena Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

CIENA CORPORATION

Written Statement of Chief Financial Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

The undersigned, the Chief Financial Officer of Ciena Corporation (the “Company”), hereby certifies that, to his knowledge, on the date hereof:

(a) the Report on Form 10-Q of the Company for the quarter ended April 29, 2023 filed on the date hereof with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

/s/ James E. Moylan, Jr.

James E. Moylan, Jr.
Senior Vice President and Chief Financial Officer
June 7, 2023

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Ciena Corporation and will be retained by Ciena Corporation and furnished to the Securities and Exchange Commission or its staff upon request.