

CIENA CORP  
Form 10-K  
December 20, 2013  
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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
FORM 10-K

(Mark One)

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

For the fiscal year ended October 31, 2013

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 0-21969

Ciena Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of

Incorporation or organization)

23-2725311

(I.R.S. Employer

Identification No.)

7035 Ridge Road, Hanover, MD

(Address of principal executive offices)

(410) 694-5700

(Registrant's telephone number, including area code)

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

Title of Each Class

Common Stock, \$0.01 par value

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

YES  NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

YES  NO

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.4-5 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES  NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.4-5 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES  NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Accelerated filer

Non-accelerated filer

Large accelerated filer

Smaller reporting company

(Do not check if a smaller reporting  
company)

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

The aggregate market value of the Registrant's Common Stock held by non-affiliates of the Registrant was approximately \$1.1 billion based on the closing price of the Common Stock on the NASDAQ Global Select Market on May 1, 2013.

The number of shares of Registrant's Common Stock outstanding as of December 12, 2013 was 103,708,240.

**DOCUMENTS INCORPORATED BY REFERENCE**

Part III of the Form 10-K incorporates by reference certain portions of the Registrant's definitive proxy statement for its 2014 Annual Meeting of Stockholders to be filed with the Commission not later than 120 days after the end of the fiscal year covered by this report.

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PART I

The information in this annual report contains certain forward-looking statements, including statements related to our business prospects and strategies, the markets for our products and services, and trends in our business and markets that involve risks and uncertainties. Our actual results may differ materially from the results discussed in these forward-looking statements. Factors that might cause such a difference include those discussed in “Business,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this annual report.

Item 1. Business  
Overview

We are a network specialist focused on networking solutions that enable converged, next-generation architectures, optimized to handle the broad array of high-bandwidth communications services relied upon by business and consumer end users. We provide equipment, software and services that support the transport, switching, aggregation, service delivery and management of voice, video and data traffic on communications networks.

Our Converged Packet Optical, Packet Networking, Optical Transport and Software products are used, individually or as part of an integrated, programmable solution, in networks operated by communications service providers, cable operators, governments, enterprises, research and education institutions, content service providers and other network operators across the globe. Our products allow network operators to scale capacity, increase transmission speeds, allocate network traffic and deliver services to end users. Our network solutions also include an integrated software suite that provides network and service management capabilities that unify our product portfolio, facilitating automation and software-defined programmability to enable efficient service delivery. To complement our product portfolio, we offer a broad range of Network Transformation Solutions and related support services that help our customers design, optimize, deploy, manage and maintain their networks. We believe that the close, collaborative partnership with customers enabled by our engagement model and services offering is an important component of our network specialist approach and a significant differentiator for Ciena with our customers.

Rapid proliferation of and reliance by end users upon communications services and devices, increased mobility and growth in cloud-based services have fundamentally affected the demands placed upon communications networks and how they are designed. Network operators face a challenging and rapidly changing environment that requires that their network infrastructures be robust enough to address increasing capacity needs and be flexible enough to adapt to new application and service offerings. Network operators are competing to distinguish their service offerings to end users and generate revenue, while managing the costs required to implement and maintain their networks. To address these business, infrastructure and service delivery challenges, we believe network operators need a flexible infrastructure that can be adapted to support a variety of applications and controlled through the use of software.

Our OP<sup>n</sup> Architecture is designed to meet these challenges by providing increased scalability and programmability, as well as network-level software applications to control and configure the network dynamically. Through this network approach, we seek to enable high-capacity, configurable infrastructures that can adapt to the changing needs of end-users and the applications that they require, while providing flexible interfaces for the integration of computing, storage and network resources. By increasing network flexibility for service delivery, reducing required network elements and enabling increased scale at reduced cost, our solutions simplify networks. At the same time, our approach facilitates the creation of new service offerings, creating business and operational value for our customers. Our OP<sup>n</sup> Architecture, which underpins our solutions offering and guides our research and development strategy, is described more fully in “Strategy” below.

Certain Financial Information and Segment Data

We generated revenue of \$2.1 billion in fiscal 2013, as compared to \$1.8 billion in fiscal 2012. For more information regarding our results of operations, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of Part II of this annual report. During the first quarter of fiscal 2013, Ciena reorganized its internal organization structure and the management of its business into new operating segments. See Note 18 to the Consolidated Financial Statements found in Item 8 of Part II of this annual report. As a result of this reorganization, our operations are currently organized into four separate operating segments: “Converged Packet Optical,” “Packet Networking,” “Optical Transport,” and “Software and Services.”

The matters discussed in this “Business” section should be read in conjunction with the Consolidated Financial Statements found in Item 8 of Part II of this annual report, which include additional financial information about our operating segments, total assets, revenue, measures of profit and loss, and financial information about geographic areas and customers representing greater than 10% of revenue.

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### Corporate Information and Access to SEC Reports

We were incorporated in Delaware in November 1992 and completed our initial public offering on February 7, 1997. Our principal executive offices are located at 7035 Ridge Road, Hanover, Maryland 21076. Our telephone number is (410) 694-5700, and our website address is [www.ciena.com](http://www.ciena.com). We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, available free of charge in the "Investors" section of our website as soon as reasonably practicable after we file these reports with the Securities and Exchange Commission (the "SEC"). We routinely post the reports above, recent news and announcements, financial results and other important information about our business on our website at [www.ciena.com](http://www.ciena.com). Information contained on our website is not a part of this annual report.

On December 12, 2013 we announced our intention to transfer the listing of our common stock from the NASDAQ Global Select Market to the New York Stock Exchange, effective on or about December 23, 2013. Ciena common stock will continue to trade under the stock symbol "CIEN."

### Industry Background

The markets in which we sell our communications networking solutions have been subject to significant changes in recent years, including rapid growth in network traffic, increased mobility, expanded service offerings, and evolving end user demands. These conditions have created market opportunities and business challenges, and they have changed competitive landscapes for Ciena and its customers. Existing and emerging network operators are competing to distinguish their service offerings and rapidly introduce differentiated, revenue-generating services. At the same time, network operators continue to seek to manage network expense and operate their businesses profitably. These dynamics are driving technology convergence of network features, functions and layers, virtualization of certain network functions, and increasing demand for software-based network programmability. We believe these market dynamics will cause network operators to adopt communications network infrastructures that are increasingly more automated, robust and configurable.

### Network Traffic Growth Driving Increased Capacity Requirements and Transmission Speeds

Optical networks, which carry voice, video and data traffic using multiple wavelengths of light across fiber optic cables, have experienced a multi-year period of strong traffic growth, and industry analysts project continued growth for the foreseeable future. Increasing network traffic is being driven by growing use of, and reliance upon, a broad range of communications services by consumer and business end users, as well as the expansion of bandwidth-intensive wireline and wireless services. Mobile applications, including Internet, video and data services from the proliferation of smartphones, tablets and other wireless devices are further increasing network traffic. Business customers seeking to improve automation and productivity are increasingly dependent upon bandwidth-intensive communications services that facilitate global operations, employee mobility and seamless access to critical business applications and data. Enterprise technology trends such as virtualization, cloud computing and machine-to-machine connections are placing new capacity requirements on networks. At the same time, an increasing portion of network traffic is being driven by growth of consumer-oriented applications and adoption of mobile and broadband technologies. These include peer-to-peer Internet applications, video services, multimedia downloads, cloud-based consumer services and online gaming. We believe that this traffic growth will require that network operators add capacity or transition to higher capacity networks with increased transmission speeds.

### Multiservice Traffic and Transition to Software-Defined Programmable Network Architectures

We expect that the broadening mix of high-bandwidth, data and video communications services will require upgrades to existing network infrastructures, including wireless and wireline networks. We believe that this mix of high-bandwidth and latency-sensitive data traffic, and an increased focus on controlling network costs, are driving a transition from multiple, purpose-built and disparate SONET/SDH-based networks to a more efficient, converged, multi-purpose packet-optical network architecture. The industry has previously experienced such network technology transitions, and these upgrade and investment cycles tend to happen over multi-year periods. For instance, from the mid 1980s to the mid 1990s, service providers focused network upgrades on the transition required to digitize voice traffic. From the mid 1990s to the mid 2000s, service providers focused network upgrades on the transition to SONET/SDH networks designed to reliably handle substantially more network traffic. We believe that the industry is currently experiencing a network transition to flexible, multi-purpose OTN/Ethernet packet-based network architectures that more efficiently handle a growing mix of high-bandwidth communications services and a greater concentration of data traffic.

#### Drivers for Network Transformation

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We believe the following areas are illustrative of the significant transition in the services, applications and performance required from today's networks, and we believe that transition will fundamentally change how communications networks are designed and managed.

**Mobility.** The emergence of smart mobile devices and tablets that deliver integrated voice, audio, photo, video, email and mobile Internet capabilities is rapidly changing the service type and magnitude of data traffic carried by wireless networks. The increase in availability and improved ease of use of mobile web-based applications expands the reach of virtualized services beyond a wireline connection. For instance, consumer-driven video and gaming are being virtualized, allowing broad access, regardless of the device or the network used. Because most wireless traffic ultimately travels over a wireline network in order to reach its destination, growth in mobile communications continues to place demands upon wireline networks.

**“Cloud” Services.** Cloud services are characterized by the sharing of computing, storage and network resources to improve economics through higher utilization of networked elements. IT and network service providers are centralizing these resources in order to offer usage-based and metered services that are hosted remotely across a network. Prevalent cloud-based services include Platform as a Service (PaaS), Software as a Service (SaaS) and Infrastructure as a Service (IaaS). As a result, smaller enterprises and consumers can subscribe to an expanding range of cloud services to replace local computing and storage requirements. Larger enterprises and data center operators may use private clouds to consolidate their own resources and public clouds to accommodate peak demand situations, sometimes in combination. Today, infrastructures exist to dynamically allocate centralized storage and computing resources. As a result, network architectures must be capable of adapting in real time to changing capacity requirements and locations.

**Network Virtualization.** Virtualization is the process of decoupling physical IT or communications assets from the logical services or capabilities they can provide. This approach has many appealing attributes, such as minimizing expensive resources while adding flexibility and scale. The virtualization of computing, storage and network resources elevates the value of connectivity and drives demand for network infrastructures that offer greater programmability, scale, and flexibility. Now, these virtualization principles are being applied to communications networks. Network operators are seeking to virtualize costly, single-function or dedicated network appliances, such as firewalls and WAN-accelerators, by deploying their functionality on centralized, generic servers. Consequently, fewer devices are needed and those devices can be reconfigured to serve a variety of network functions.

**Machine-to-Machine (M2M) Applications.** In the past, communications services largely related to the connection of locations. With the growth of and increasing reliance upon mobile applications, this model has shifted to connectivity of people-to-people or people-to-content. As the number of networked connections between devices and servers grows, M2M-related traffic is expected to represent an increasing portion of Internet traffic. Today, we are beginning to see growth in device-to-device connection requirements. In addition to increasing network capacity requirements, this trend also dramatically increases the complexity of connectivity and the number of connections the network must accommodate and manage. These connections provide value-added services and allow users to share data that can be monitored and analyzed by applications residing on various devices. We expect service traffic relating to the interconnection of machines or devices to grow as Internet and cloud content delivery, smartgrid applications, health care and safety monitoring, resource/inventory management, home entertainment, consumer appliances and other mobile data applications become more widely adopted.

## Strategy

We believe that the shift that is underway in network architectures to next-generation, converged infrastructures represents significant, long-term opportunities for our business. We believe that market trends underlying this shift, including the proliferation of devices running mobile web applications, the prevalence of video applications, the



increase in machine-to-machine connections, and the shift of enterprise and consumer applications to cloud-based or virtualized network environments, are indicative of increasing use and dependence by consumers and enterprises upon a growing variety of broadband applications and services. We expect that these services will continue to require network operators to invest in converged next-generation network infrastructures that are more automated, open and software programmable.

Our corporate strategy to capitalize on these market dynamics, promote operational efficiency and drive profitable growth of our business includes the following initiatives:

Promotion of our OP<sup>n</sup> Architecture for Next-Generation Networks. The services and applications running on communications networks require that more of the traffic on these networks be packet-oriented. The traditional approach to this

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problem has been to add IP routing capability at many points of intersection in the network. As capacity needs grow, this approach becomes unnecessarily complex and costly. We reduce the cost and complexity of growing networks with a programmable infrastructure that brings together the reliability and capacity of optical networking with the flexibility and economics of packet networking technologies. Combining these attributes with network level applications creates an approach we call our "OP<sup>n</sup> Architecture". Our OP<sup>n</sup> Architecture leverages the convergence of optical and packet networking to enable network scale, applies advanced control plane software for network programmability, and enables cloud-level applications to integrate and optimize network resources — along with computing and storage resources — in a virtualized environment. The software-driven aspects of this architecture become increasingly important as our service provider customers seek to rapidly create new, differentiated services based on next-generation architectures. We intend to promote the scalability, programmability, flexibility and cost-effectiveness attributes of our OP<sup>n</sup> Architecture, and we see opportunities in offering a portfolio of carrier-class solutions that facilitates the transition to converged, next-generation networks.

**Alignment of Research and Development Investment with Growth Opportunities.** We seek to ensure that our product development initiatives and investments are closely aligned with our market growth opportunities, shifts in network architectures and the changing dynamics faced by network operators. We are investing in our OP<sup>n</sup> Architecture with current development efforts focused on expanding packet capabilities in our Packet Networking and Converged Packet Optical products for metro and service aggregation applications and on optimizing our core network solutions for application in metro networks. Our research and development efforts seek to extend and converge our existing technologies, including our WaveLogic coherent optical processor for 40G and 100G optical transport, and introduce 400G and greater transmission speeds. In the packet area, we are increasing the scale and capability of our packet offerings and integrating standards-based open control interfaces. In the software area, we are enhancing our network management and planning applications. We are also focusing on initiatives to increase software-defined programmability and control of networks and to develop network-level software applications that configure networks and support new service introduction.

**Evolution of our Go-to-Market Model.** We seek to evolve our go-to-market sales model, from both coverage and engagement perspectives.

**Coverage.** Through direct sales resources as well as our strategic channel relationships, our coverage model is focused on penetrating high-growth geographic markets, selling into key customer segments and addressing additional network applications with our solutions. We seek to enhance our brand internationally, expand our geographic reach and increase market share in international markets, including Brazil, the Middle East, Russia, Japan and India. We intend to pursue opportunities to diversify our customer base beyond our traditional customers. We are expanding our sales efforts to: capture opportunities arising from enterprise migration to, and increased reliance upon, cloud-based services; build upon our reputation with government agencies and research and educational institutions as a trusted network equipment supplier; and target content service providers and other network operators emerging as a result of network modernization drivers and the adoption of new communication services. We seek to expand the application of our solutions, including metro aggregation and submarine networks, and in support of cloud-based services, business Ethernet services and mobile backhaul. We intend to pursue selling initiatives and strategic channel opportunities, including relationships with key resellers. We also intend to sell into enterprise end users through our service provider customers, systems integrators and value-added resellers.

**Engagement.** Our strategy is to leverage our close, collaborative relationships with customers in the design, development, implementation and support of their networks and to promote a close alignment of our solutions with customer network priorities. We believe that this engagement model is a key differentiator for our business and provides us with unique insight into the business and network needs of our customers. We seek to expand our Network Transformation Solutions offering to address the network modernization and service delivery demands of our customers, as well as their desire to derive additional value from their network infrastructures. We believe this

services-oriented solutions offering shifts our value proposition beyond the sale of our next-generation communications networking equipment and allows us to play a key role in the design and evolution of our customers' networks to support their strategic business objectives. By understanding our customers' infrastructure and business needs, and the evolving markets in which they compete, we believe our engagement approach creates additional business and operational value for our customers.

Business optimization to yield operating leverage. We seek to improve the operational efficiencies in our business and gain additional operating leverage. We are focused on the transformation and redesign of certain business processes, systems, and resources. These initiatives include additional investments, re-engineering and automation of certain key business processes, including the engagement of strategic partners or resources to assist with select business functions. In addition, we are focused on optimizing our supply chain, including efforts to reduce our material and overhead costs in an effort to increase efficiency and reduce the cost to produce our product solutions. These initiatives include portfolio and process optimization, reducing our

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fulfillment, shipping and logistics expense, and identifying ways to drive improved efficiencies in the design and development of our solutions. We seek to leverage these opportunities to promote the profitable growth of our business.

### Customers and Markets

Our customer base, and the geographic markets and customer segments into which we sell our products and services, have expanded in recent years. As a result of the industry dynamics discussed above, additional network operators supporting new communications services and applications continue to emerge. The network infrastructure needs of our customers vary, depending upon their size, location, the nature of their end users and the services that they deliver and support. We sell our product and service solutions through our direct sales force and third party channel partners to end user network operators in the following customer segments.

#### Communications Service Providers

Our service provider customers include regional, national and international wireline and wireless carriers, as well as service provider consortia offering services over submarine networks. Our customers include AAPT, Allstream, AT&T, Australia Japan Cable, Bell Canada, BT, Cable & Wireless, CenturyLink, France Telecom, Japan-US Cable, Korea Telecom, PLDT, Rascom, Reliance, SEA-ME-WE 4, SingTel, Southern Cross, Sprint, Tata Communications, Telefonica, Telmex, Telus, Verizon, Vimpelcom, Vodafone and XO Communications. Communications service providers are our historical customer base and continue to represent a significant majority of our revenue. We provide service providers with products from the wireline network core to its edge where end users gain access. Our service provider solutions address growing bandwidth demand from multiservice traffic growth and support key service provider offerings, including carrier-managed services, wide area network ("WAN") consolidation, data center and inter-site connectivity, wireless backhaul and business Ethernet services.

#### Cable & Multiservice Operators (MSO)

Our customers include leading cable and multiservice operators in the United States and internationally. These customers include Comcast, Cox, RCN, Rogers, Time Warner Cable and Virgin Media. Our cable and multiservice operator customers rely upon us for carrier-grade, Ethernet transport and switching products and high-capacity coherent optical transport. Our platforms allow cable operators to integrate voice, video and data applications over a converged infrastructure and to scale their networking infrastructure to keep ahead of the bandwidth and application demands of their subscribers. Our products support key cable applications including business Ethernet services, wireless backhaul, broadcast and digital video, voice over IP, and video on demand.

#### Enterprise

Our enterprise customers include large, multi-site commercial organizations, including participants in the financial, health care, transportation, utilities and retail industries. Our solutions enable enterprises to leverage network resources to achieve operational improvements, increased automation and information technology cost reductions. Our products enable inter-site connectivity between data centers, sales offices, manufacturing plants, retail stores and research and development centers, using an owned or leased private fiber network or a carrier-managed service. Our products facilitate key enterprise applications including IT virtualization, cloud computing, business Ethernet services, business continuity, online collaboration, video conferencing, low latency networking and WAN encryption. Our products also enable our enterprise customers to prevent unexpected network downtime and ensure the safety, security and availability of their data.

#### Content Service Providers

Our customers include global providers of a diverse range of Internet content services and applications such as search, social media, video, real-time communications and cloud-based offerings to consumers and enterprises. Our customers require massive scale, low latency, reliability and performance to interconnect critical data centers and connect end-users to network resources and content. Our customers leverage high-capacity coherent optics, packet switching, automated service provisioning and software-based network control to deliver flexible, high-performance connectivity services on demand in a virtualized network environment.

#### Government, Research and Education

Our government customers include federal and state agencies in the United States as well as international government entities. Our government and research and education customers seek to take advantage of technology innovation, improve their information infrastructure and facilitate increased collaboration. Our solutions feature ultra-high capacity and service flexibility

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to meet the requirements of supercomputing systems. Our solutions offering promotes network assurance, security and reliability while improving network performance, capacity and flexibility. We collaborate with leading institutions to provide government, research and education communities with optimized networks that minimize cost and complexity, through initiatives that support intelligent control plane technologies, interoperability and scalability.

### Products and Services

Our product portfolio consists of our Converged Packet Optical, Packet Networking and Optical Transport products. Our network solutions also include an integrated software suite, which provides network management capabilities that unify our product portfolio and provide automation, software-defined programmability and management features that enable efficient service delivery. These products, together with our network transformation solutions and support services offerings, allow us to offer customers comprehensive solutions to address their communications network priorities.

#### Converged Packet Optical

Our Converged Packet Optical portfolio includes networking solutions optimized for the convergence of coherent optical transport, OTN switching and packet switching.

Utilizing our coherent 40G and 100G optical transport technology, our 6500 Packet-Optical Platform provides a flexible, scalable dense wavelength division multiplexing (DWDM) solution that adds capacity to core, regional and metro networks and enables efficient transport at high transmission speeds. Our 6500 Packet-Optical Platform features our WaveLogic coherent optical processors. Our third generation of this custom silicon chipset facilitates deployment over existing fiber plant (terrestrial and submarine), scales capacity to 40G, 100G and greater transmission speeds, and minimizes the need for certain network equipment, such as amplifiers, regenerators and dispersion compensating devices. Our 6500 Packet-Optical Platform also includes certain integrated switching elements, addressing market demand for converged network features, functions and layers to drive more robust and cost-effective network infrastructures. This platform — which includes several chassis sizes and a comprehensive set of line cards — can be utilized from the customer premises, where space and power are limited, to the metropolitan/regional core, where the need for high capacity and carrier-class performance is essential.

Our Converged Packet Optical portfolio also includes products that provide packet switching capability to allocate network capacity efficiently and enable rapid service delivery. Our 5430 Reconfigurable Switching System includes a family of multi-terabit reconfigurable switching systems that utilize intelligent mesh networking to provide resiliency and feature an integrated optical control plane to automate the provisioning and bandwidth control of high-capacity services. These platforms flexibly support a mix of Carrier Ethernet/MPLS, OTN, WDM, and SONET/SDH switching to facilitate the transition to a service-enabling infrastructure. Our CoreDirector® Multiservice Optical Switch and 5430 Reconfigurable Switching System offer multiservice, multi-protocol switching systems that consolidate the functionality of an add/drop multiplexer, digital cross-connect and packet switch into a single, high-capacity intelligent switching system. These products address both core and metro segments of communications networks and support key managed services, including Ethernet/TDM Private Line and IP services.

#### Packet Networking

Our Packet Networking products allow customers to utilize the automation and capacity created by our Converged Packet Optical products in core and metro networks and to deliver new, revenue-generating services to consumers and enterprises. These products have applications from the edge of metro and core networks, where they aggregate traffic, to the access tiers of networks where they can be deployed to support wireless backhaul infrastructures and deliver business data services. As a key element of our OP<sup>n</sup> Architecture, our Packet Networking products facilitate network

simplicity and cost effectiveness, including reduced costs associated with power and space, as compared to traditional IP routing network designs. Our Packet Networking products also enable a flexible and open architecture that reduces the complexity of growing networks and adding services.

Our Packet Networking products principally include our 3000 family of service delivery switches and service aggregation switches, the 5000 series of service aggregation switches, and our Ethernet packet configuration for the 5410 Service Aggregation Switch. These products support the access and aggregation tiers of communications networks and have principally been deployed to support wireless backhaul infrastructures and business data services. Employing sophisticated, carrier-grade Ethernet switching technology, these products deliver "quality of service" capabilities, virtual local area networking and switching functions, and carrier-grade operations, administration, and maintenance features. This segment also includes stand-alone broadband products that transition voice networks to support Internet-based telephony, video services and DSL.

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Our Packet Networking products utilize our Service-Aware Operating System ("SAOS") in conjunction with our network management software suite to reduce customer operating expense and accelerate network operators' time-to-revenue for business, mobile and consumer data services. We have also integrated key features and attributes of SAOS on our Converged Packet-Optical products to ensure seamless service delivery and operations between our Packet Networking and Converged Packet-Optical portfolios.

### Optical Transport

Our Optical Transport products include stand-alone WDM and SONET/SDH-based optical transport solutions that add capacity to core, regional and metro networks and enable cost-effective and efficient transport of voice, video and data traffic at high transmission speeds. The products in this segment principally include the 4200 Advanced Services Platform, Corestream® Agility Optical Transport System, 5100/5200 Advanced Services Platform, Common Photonic Layer (CPL), and 6100 Multiservice Optical Platform. Our Optical Transport portfolio includes our traditional SONET/SDH transport and data networking products, as well as certain enterprise-oriented transport solutions that support storage and LAN extension, interconnection of data centers, and virtual private networks.

### Software and Services

#### Network Management and Network Control Software

Our integrated software offering includes our OneControl Unified Management System, an integrated network and service management software that unifies our product portfolio, provides automated management features and enables efficient service delivery. Our network management tools offer a comprehensive set of functions, from monitoring network performance and provisioning the network, to full service level management across a variety of network layers and domains. These software solutions can track individual services across multiple product suites, facilitating planned network maintenance, outage detection and identification of customers or services affected by network performance. Our integrated software suite is a robust, service aware framework that improves network utilization and availability, while delivering enhanced performance monitoring and reliability. By increasing network automation, minimizing network downtime and monitoring network performance and service metrics, our software tools enable customers to improve cost effectiveness, while increasing the performance and functionality of their network operations. This software suite also includes Ciena OnePlanner, a suite of planning tools that helps network operators utilize their networks more efficiently, and our ON-Center® Network & Service Management Suite, Ethernet Services Manager, Optical Suite Release and network level applications.

#### Network Transformation Solutions and Support Services

To complement our product portfolio, we offer a broad range of consulting and support services that help our customers design, optimize, deploy, manage and maintain their communications networks. We believe that our broad set of service offerings is an important component of our network specialist approach and a significant differentiator from our competitors. We believe that our services offering and our close collaborative engagement with customers provide us with valued insight into network and business challenges faced by our customers, enabling them to modernize and gain value from their network infrastructures. Our network transformation solutions offering enables us to work closely with our customers in the assessment, planning, deployment, and transformation of their networks. We believe that customers place significant value on the strategic, consultative engagements afforded by our services offering and on our ability to partner with them through services-oriented solutions that address their network and business needs.

Our services and support portfolio includes the following offerings:



Network transformation solutions, including:

Network analysis, planning and design; and

Network optimization, migration, modernization and assurance services.

Maintenance and support services, including:

helpdesk and technical assistance;

training;

spares and logistics management;

engineering dispatch and on-site professional services;

equipment repair and replacement; and

software maintenance and updates.

Deployment services, including turnkey installation and turn-up and test services;

Network management and operations center services; and

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Project management services, including staging, site preparation and installation support activities.

We provide these services using a combination of internal resources and qualified third party service partners.

## Product Development

Our industry is subject to rapid technological developments, evolving service delivery requirements, standards and protocols, and shifts in customer and end user network demand. To remain competitive, we must continually enhance existing product platforms by adding new features and functionality, increasing transmission speeds and capacity, and introducing new network solutions that address multiservice traffic growth and enable new service offerings. Our research and development strategy has been to pursue technology convergence. This enables us to consolidate network features and functionalities onto a single platform, helping network operators architect robust, feature-rich networks that require fewer network elements and address cost, space and power limitations. We believe these converged, next-generation networking solutions promote rapid service delivery and allow network operators to derive business and operational value from their network infrastructures.

We are investing in our OP<sup>n</sup> Architecture, our approach to building next-generation networks. Our OP<sup>n</sup> Architecture, which underpins our solutions offering and guides our research and development strategy, leverages the convergence of optical and packet technologies to increase network scale cost effectively, while emphasizing software-enabled programmability, automation and open interfaces. Through this network approach, we seek to enable high-capacity, configurable infrastructures that can be managed and adapted by network-level applications, and to provide flexible interfaces for the integration of computing and storage resources in a unified network. Our product development initiatives also include design and development work intended to address growing opportunities, such as metropolitan network applications, enterprise networking, cloud infrastructure and packet-based infrastructure solutions for next-generation, high-capacity networks. To address these opportunities and realize our network vision, our current development efforts are focused upon:

Improving and converging technologies across our portfolio, including:

Extending our leadership in 40G, 100G, and 400G long-haul transport;

Continued development of our WaveLogic coherent optical processor to improve network capacity, transmission speed, spectral efficiency and reach;

Expanding packet networking capabilities and features for our high-capacity Ethernet aggregation switches, for metro and service aggregation applications, mobile backhaul and business Ethernet services;

- Developing products that increase software-based network programmability and control, including:

software-defined networking control layer;

network level applications that automate various network functions, support new service introduction and monetize network assets; and

software-based virtualization of features or functions traditionally supported by hardware network elements.

- Designing solutions that enable network operators to achieve improved cost and efficiency, including with respect to power, space and cost per bit.

Our research and development efforts are also geared toward portfolio optimization and engineering changes intended to drive cost reductions across our platforms.

To ensure that our product development investments and solutions offerings are closely aligned with market demand, we continually seek input from customers and promote collaboration among our product development, marketing and global field organizations. In some cases, we work with third parties pursuant to technology licenses, original equipment manufacturer (OEM) arrangements and other strategic technology relationships or investments, to develop

new components or products, modify existing platforms or offer complementary technology to our customers. In addition, we participate in industry and standards organizations, where appropriate, and incorporate information from these affiliations throughout the product development process.

We regularly review our existing product offerings and prospective development projects to determine their fit within our portfolio and broader corporate strategy. We assess the market demand, technology evolution, prospective return on investment and growth opportunities, as well as the costs and resources necessary to develop and support these products. In recent years, our strategy has been to pursue technology and product convergence that allows us to consolidate multiple network technologies, features or functionalities on a single platform, or to control and manage multiple elements throughout the network from a single management system, ultimately creating more robust, integrated and cost-effective network tools. We have also shifted our strategic development approach from delivering point products to providing a focused combination of networking equipment, software and service solutions that address the business and network needs of our customers.

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Within our global products group, we maintain a team of skilled engineers with extensive experience in the areas of photonics, packet and circuit switching, network system design, and embedded operating system and network management software. Our research and development expense was \$379.9 million, \$364.2 million and \$383.4 million, for fiscal 2011, 2012 and 2013, respectively. For more information regarding our research and development expense, see “Management's Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 of Part II of this report.

### Sales and Marketing

We sell our communications networking solutions through our direct sales resources as well as through strategic channel relationships. In addition to securing new customers in growth geographies and customer market segments, our sales strategy has focused on building long-term, consultative relationships with existing customers. We believe this engagement model promotes our network specialist approach, allows us to address a wider range of applications with our customers, and helps ensure the alignment of our expertise with our customers' business and network requirements. We believe this approach also provides opportunities to participate in future projects relating to the transition or expansion of existing network infrastructures and to cross-sell solutions across our portfolio.

Within our global field organization, we maintain a direct sales presence that is organized geographically around the following markets: (i) United States and Canada; (ii) Caribbean and Latin America; (iii) Europe, Middle East and Africa; and (iv) Asia-Pacific. These regions include sales personnel that focus on one or more of the following customer segments: communications service providers, including traditional wireline service providers, wireless providers, cable and multiservice operators, enterprise customers, content service providers and government, research and education. Within each geographic area, we maintain specific teams that focus on a particular region, country, customer or market vertical. These teams include sales management, account salespersons, and systems engineers, as well as strategic marketing, services and commercial management personnel, who ensure we operate closely with and provide a high level of support to our customers. Certain of our global sales teams also focus on submarine network opportunities and emerging customer segments including content service providers and cloud infrastructure providers.

We also maintain a global channel program that works with resellers, systems integrators, service providers, and other third party distributors who market and sell our products and services. Our third party channel sales and other distribution arrangements enable us to reach additional geographic regions and customer segments. We intend to pursue and foster targeted strategic channel relationships in an effort to enable us to sell our products as a complement to the broader offering of these vendors or integrators, including, in particular, in support of enterprise-oriented applications and cloud-based services. We also see opportunities to leverage these strategic channel relationships to address additional customer segments, emerging applications for our solutions and growth geographies. Our use of channel partners has been a key component in our sales to government, research and education and enterprise customers. We believe this strategy and our use of third party channels afford us expanded market opportunities and reduce the financial and operational risk of entering these additional markets.

To support our sales efforts, we engage in marketing activities intended to position and promote our brand as well as our product, software and service offerings. Our marketing team supports sales efforts through direct customer interaction, industry events, public relations, industry analysts, social media, tradeshow, our website and other marketing channels for our customers and channel partners.

### Operations and Supply Chain Management

Operations personnel within our global products group manage our relationships with our third party manufacturers and manage our supply chain. In addition, this team also addresses component procurement and sourcing, product testing and quality, fulfillment and logistics relating to our sales, support and professional services, and distribution

efforts.

We utilize a global sourcing strategy that emphasizes procurement of materials and product manufacturing in lower cost regions. We rely upon third party contract manufacturers, with facilities in Canada, Mexico, Thailand and the United States, to perform nearly all of the manufacturing of our products. We also rely upon third party supply partners to perform design and prototype development, component sourcing, full production, final assembly, testing and customer order fulfillment. As a result, we are exposed to risks associated with the business continuity of these third parties and other events or conditions affecting the locations where they operate. We are also exposed to risks associated with their markets and business practices including the level of corruption or protection of intellectual property. To address customer concerns and to mitigate the related risks to our business, operations and intellectual property, we have been reducing the reliance of our supply chain upon suppliers in China and are currently transitioning, or expect to transition, the procurement of certain components and the manufacture and assembly of our product platforms to alternate locations.

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We are currently utilizing a direct order fulfillment model for the sale of certain products, and are engaged in initiatives to expand this model to a broader set of products. This model allows us to rely on our third party contract manufacturers to perform final system integration and testing prior to shipment of products from their facilities directly to our customers. For certain products, we continue to perform a portion of the system assembly, software application, final system integration and testing internally. We believe that our sourcing and manufacturing strategy allows us to conserve capital, lower costs of product sales, adjust quickly to changes in market demand, and operate without dedicating significant resources to manufacturing-related plant and equipment. As part of our effort to optimize our operations, we continue to focus on driving cost reductions through sourcing, design and engineering efforts, rationalizing our supply chain and consolidating distribution sites and service logistics partners. These efforts include process optimization and initiatives, such as vendor-managed inventory models, to drive improved efficiencies in our sourcing, logistics and fulfillment.

Our manufacturers procure components necessary for assembly and manufacture of our products based on our specifications, approved vendor lists, bills of materials and testing and quality standards. Our manufacturers' activity is based on rolling forecasts that we provide to them to estimate demand for our products. This build-to-forecast purchase model exposes us to the risk that our customers will not order those products for which we have forecast sales, or will purchase less than we have forecast. As a result, we incur carrying charges or obsolete material charges for components purchased by our manufacturers. We work closely with our manufacturers to manage material, quality, cost and delivery times, and we continually evaluate their services to ensure performance on a reliable and cost-effective basis.

Our products include some components that are proprietary in nature, only available from one or a small number of suppliers, or manufactured by sole or limited sources responsible for production. If component supplies become limited, production at a manufacturer is disrupted or we experience difficulty in our relationship with a key supplier or manufacturer, we may encounter manufacturing delays that could adversely affect our business.

## Backlog

Generally, we make sales pursuant to purchase orders issued under framework agreements that govern the general commercial terms and conditions of the sale of our products and services. These agreements do not obligate customers to purchase any minimum or guaranteed order quantities. Our backlog includes orders for products that have not been shipped and for services that have not yet been performed. In addition, backlog also includes orders relating to products that have been delivered and services that have been performed, but are awaiting customer acceptance under the applicable purchase terms. Generally, our customers may cancel or change their orders with limited advance notice, or they may decide not to accept these products and services, although both cancellation and non-acceptance are infrequent. Orders in backlog may be fulfilled several quarters following receipt or may relate to multi-year support service obligations. As a result, backlog should not be viewed as an accurate indicator of future revenue in any particular period.

Our backlog increased from \$902.0 million as of October 31, 2012 to \$1.0 billion as of October 31, 2013. Backlog includes product and service orders from commercial and government customers combined. Backlog at October 31, 2013 includes approximately \$167.3 million, primarily related to orders for maintenance and support services, that are not expected to be filled within fiscal 2014. Backlog at October 31, 2012 included approximately \$140.5 million, primarily related to orders for maintenance and support services, that were not expected to be filled within fiscal 2013. Our presentation of backlog may not be comparable with figures presented by other companies in our industry.

## Seasonality

Like other companies in our industry, we have experienced quarterly fluctuations in customer activity due to seasonal considerations. We typically experience reductions in order volume toward the end of the calendar year, as the procurement cycles of some of our customers slow and network deployment activity at service providers is curtailed. This seasonality in our order flows can result in somewhat weaker revenue results in the first quarter of our fiscal year. These seasonal effects do not apply consistently and do not always correlate to our financial results. Accordingly, they should not be considered a reliable indicator of our future revenue or results of operations.

#### Competition

Competition among communications network solution vendors remains intense. The markets in which we compete are characterized by rapidly advancing and converging technologies, introduction of new network solutions and selling efforts to displace incumbent vendors and secure market share. Successfully competing in these markets is based on any one or a combination of the following factors:

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- product functionality, speed, capacity, scalability and performance;
- price and total cost of ownership of our solutions;
- incumbency and existing business relationships;
- ability to offer comprehensive networking solutions, consisting of equipment, software and network consulting services;
- product development plans and the ability to drive convergence of network features, functions and layers and meet customers' immediate and future network requirements;
- flexibility, including ease of integration, product interoperability and integrated management;
  - manufacturing and lead-time
  - capability; and
- services and support capabilities.

In this intense and fragmented competitive environment, securing new opportunities, particularly in international markets, often requires that we agree to unfavorable commercial terms or pricing, financial commitments requiring collateralized performance bonds or similar instruments that place cash resources at risk, and other onerous contractual commitments that place a disproportionate allocation of risk upon us as the vendor. These terms can adversely affect our results of operations.

Competition for sales of communications networking solutions is dominated by a small number of very large, multi-national companies. Our competitors include Alcatel-Lucent, Cisco, Ericsson, Fujitsu, Huawei, Juniper Networks, and ZTE. Many of these competitors have substantially greater financial, operational and marketing resources than Ciena, significantly broader product offerings or more extensive customer bases. We expect our competitive landscape to broaden and competition to increase as network technologies, features and layers continue to converge. As this convergence occurs, and requirements for software programmability and virtualization increase, we expect to compete with a broader group of vendors offering their own network architectural approaches. We expect that we may increasingly compete with IP router vendors, system integrators and information technology and software vendors, as well as suppliers of networking technology traditionally geared toward different network users, layers or functions.

We also continue to compete with several smaller, but established, companies that offer one or more products that compete directly or indirectly with our offerings or whose products address specific niches within the markets and customer segments we address. These competitors include ADVA, BTI, Cyan, Coriant, Infinera and Transmode. In addition, there are a variety of earlier-stage companies with products targeted at specific segments of the communications networking market. These competitors often employ aggressive competitive and business tactics as they seek to gain entry to certain customers or markets. Due to these practices and the narrower focus of their development efforts, these competitors may be able to develop and introduce products more quickly, or offer commercial terms that are more attractive to customers.

## Patents, Trademarks and Other Intellectual Property Rights

The success of our business and technology leadership is significantly dependent upon our proprietary and internally developed technology. We rely upon patents, copyrights, trademarks, and trade secret laws to establish and maintain proprietary rights in our technology. We maintain a patent incentive program that seeks to reward innovation. We regularly file applications for patents and have a significant number of patents in the United States and other countries where we do business. As of December 1, 2013, we had 1,397 U.S. patents, 225 pending U.S. patent applications and over 406 non-U.S. patents.

We also rely on non-disclosure agreements and other contracts and policies regarding confidentiality with employees, contractors and customers, to establish proprietary rights and protect trade secrets and confidential information. Our



practice is to require employees and relevant consultants to execute non-disclosure and proprietary rights agreements upon commencement of their employment or consulting arrangements with us. These agreements acknowledge our ownership of intellectual property developed by the individual during the course of his or her work with us. The agreements also require that these persons maintain the confidentiality of all proprietary information disclosed to them.

Enforcing proprietary rights, especially patents, can be costly and uncertain. Moreover, monitoring unauthorized use of our technology is difficult, and we cannot be certain that the steps that we are taking will detect or prevent all unauthorized use. In recent years, we have filed suit to enforce our intellectual property rights. We have also been subject to several claims related to patent infringement, including by competitors and by non-practicing entities or "patent trolls," and have been requested to indemnify customers pursuant to contractual indemnity obligations relating to infringement claims made by third parties. Intellectual property infringement assertions could cause us to incur substantial costs, including settlement costs and legal fees in the defense of related actions. If we are not successful in defending these claims, our business could be adversely affected. For example, we may be required to enter into a license agreement requiring us to make ongoing royalty payments, required to redesign our products or prohibited from selling any infringing technology.

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Our operating system, element and network management software and other products incorporate software and components under licenses from third parties. As network requirements for increased software-defined programmability increase, and we continue to advance our OPn Architecture through the development and sale of network level applications, we may be required to license additional technology from third parties in order to develop new products or product enhancements. Failure to obtain or maintain such licenses or other third party intellectual property rights could affect our development efforts, or to require us to re-engineer our products or obtain alternate technologies.

In connection with our acquisition of substantially all of the optical networking and Carrier Ethernet assets of Nortel's Metro Ethernet Networks business (the "MEN Business") on March 19, 2010 (the "MEN Acquisition"), we obtained a non-exclusive license to use patents and other intellectual property controlled or exclusively owned by Nortel in connection with our manufacture, sale and support of a broad range of optical networking and Carrier Ethernet products and services and natural evolutions of such products and services. We also obtained an exclusive license to use a narrower set of patents and other intellectual property owned by Nortel in connection with Ciena's manufacture, sale and support of optical networking and Carrier Ethernet products and services within a narrower field of use and subject to certain limitations. As part of this license, we granted Nortel a non-exclusive license to use the patents and other intellectual property (except trademarks) that we acquired as part of the MEN Business in connection with the manufacture and sale of products and services in the fields of Nortel's other businesses (including those businesses sold and to be sold to other parties) and natural evolutions of such fields.

## Environmental Matters

Our business and operations are subject to environmental laws in various jurisdictions around the world, including the Waste Electrical and Electronic Equipment (WEEE) and Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) regulations adopted by the European Union. We are also subject to disclosure and related requirements that apply to the presence of "conflict minerals" in our products or supply chain. We seek to operate our business in compliance with such laws relating to the materials and content of our products and product takeback and recycling. Environmental regulation is increasing, particularly outside of the United States, and we expect that our domestic and international operations may be subject to additional environmental compliance requirements, which could expose us to additional costs. To date, our compliance costs relating to environmental regulations have not resulted in a material cost or effect on our business, results of operations or financial condition.

## Employees

As of October 31, 2013, we had a global workforce consisting of 4,754 employees. We have not experienced any work stoppages, and we consider the relationships with our employees to be good. Competition to attract and retain highly skilled technical, engineering and other personnel with experience in our industry is intense. We believe that our future success depends in critical part on our continued ability to recruit, motivate and retain such qualified personnel.

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## Directors and Executive Officers

The table below sets forth certain information concerning our directors and executive officers:

Name	Age	Position
Patrick H. Nettles, Ph.D.	70	Executive Chairman of the Board of Directors
Gary B. Smith	53	President, Chief Executive Officer and Director
Stephen B. Alexander	54	Senior Vice President and Chief Technology Officer
Rick Dodd	44	Senior Vice President, Global Marketing
James A. Frodsham	47	Senior Vice President and Chief Strategy Officer
François Locoh-Donou	42	Senior Vice President, Global Products Group
Philippe Morin	48	Senior Vice President, Global Field Organization
James E. Moylan, Jr.	62	Senior Vice President, Finance and Chief Financial Officer
Andrew C. Petrik	50	Vice President and Controller
David M. Rothenstein	45	Senior Vice President, General Counsel and Secretary
Harvey B. Cash (1)(3)	75	Director
Bruce L. Claflin (1)(2)	62	Director
Lawton W. Fitt (2)	60	Director
Judith M. O'Brien (1)(3)	63	Director
Michael J. Rowny (2)	63	Director
Patrick T. Gallagher (2)(3)	58	Director

(1)Member of the Compensation Committee

(2)Member of the Audit Committee

(3)Member of the Governance and Nominations Committee

Our Directors hold staggered terms of office, expiring as follows: Ms. O'Brien and Messrs. Cash and Smith in 2014; Messrs. Claflin and Gallagher in 2015; and Ms. Fitt, Dr. Nettles and Mr. Rowny in 2016.

Patrick H. Nettles, Ph.D. has served as a Director of Ciena since April 1994 and as Executive Chairman of the Board of Directors since May 2001. From October 2000 to May 2001, Dr. Nettles was Chairman of the Board of Directors and Chief Executive Officer of Ciena, and he was President and Chief Executive Officer from April 1994 to October 2000. Dr. Nettles serves as a Trustee for the California Institute of Technology and serves on the board of directors of Axcelis Technologies, Inc. and The Progressive Corporation. Dr. Nettles has previously served on the board of directors of Appttrigger, Inc., formerly known as Carrius Technologies, Inc., and on the board of directors of Optiwind Corp, a privately held company

Gary B. Smith joined Ciena in 1997 and has served as President and Chief Executive Officer since May 2001. Mr. Smith has served on Ciena's Board of Directors since October 2000. Prior to his current role, his positions with Ciena included Chief Operating Officer, and Senior Vice President, Worldwide Sales. Mr. Smith previously served as Vice President of Sales and Marketing for INTELSAT and Cray Communications, Inc. Mr. Smith also serves on the board of directors for Avaya Inc. and CommVault Systems, Inc. Mr. Smith is a member of the President's National Security Telecommunications Advisory Committee, the Global Information Infrastructure Commission and the Center for Corporate Innovation (CCI).

Stephen B. Alexander joined Ciena in 1994 and has served as Chief Technology Officer since September 1998 and as a Senior Vice President since January 2000. Mr. Alexander has previously served as General Manager of Products & Technology and General Manager of Transport and Switching and Data Networking.

Rick Dodd has served as Ciena's Senior Vice President, Global Marketing since December 2010 and is responsible for Ciena's product, solutions and corporate marketing organizations and provides strategic support to Ciena's global field organization and global products groups. Mr. Dodd previously worked at Infinera Corporation from September 2003 to December 2010 and served in roles including Vice President of Product Marketing and Vice President of Corporate Marketing. Mr. Dodd previously served as an Associate Partner at venture capital firm Kleiner, Perkins, Caufield and Byers and as Ciena's Director of Strategic Marketing.



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James A. Frodsham joined Ciena in May 2004 and has served as Senior Vice President and Chief Strategy Officer since March 2010 with responsibility for our strategic planning and corporate development activities. In August 2010, Mr. Frodsham assumed responsibility for the integration of the MEN Business, which was substantially completed in fiscal 2011. Mr. Frodsham previously served as Senior Vice President, General Manager of Ciena's former Broadband Access Group from October 2004 to October 2005 and Metro and Enterprise Solutions Group from May 2004 to October 2004. From August 2000 to January 2003, Mr. Frodsham served as chief operating officer of Innovance Networks, an optical networking company. On December 23, 2003, Innovance filed a Notice of Intent to make a proposal pursuant to Part III of the Bankruptcy and Insolvency Act (Canada). Prior to that, Mr. Frodsham was employed for more than ten years in senior level positions with Nortel Networks in product development and marketing strategy, including as Vice President, Product Line Marketing, Optical Networking Group, from December 1998 to June 2000. Mr. Frodsham serves on the board of directors of Innovance Networks.

François Locoh-Donou has served as Ciena's Senior Vice President, Global Products Group since August 2011. In this capacity, Mr. Locoh-Donou leads Ciena's engineering, supply chain, product line management, quality/customer advocacy, and product marketing and solutions organizations on a global basis. Mr. Locoh-Donou joined Ciena in August 2002 and served as Ciena's Vice President and General Manager, EMEA from June 2005 to August 2011.

Philippe Morin joined Ciena in March 2010 in connection with Ciena's acquisition of Nortel's MEN Business and has served as Senior Vice President, Global Field Organization since August 2011, where he is responsible for leading Ciena's global sales and services organizations. From March 2010 to August 2011, Mr. Morin served as Ciena's Senior Vice President, Global Products Group. Mr. Morin previously served as President of Nortel's MEN Business from May 2006 until Ciena's completion of the MEN Acquisition in March 2010. In January 2009, Nortel Networks Corporation and certain of its subsidiaries filed voluntary petitions in the United States under Chapter 11 of the U.S. Bankruptcy Code. From January 2003 to May 2006, Mr. Morin held the position of Nortel's General Manager of Optical Networks. Mr. Morin previously held other positions at Nortel in manufacturing, marketing, sales and product management both in North America and Europe.

James E. Moylan, Jr. has served as Senior Vice President, Finance and Chief Financial Officer since December 2007.

Andrew C. Petrik joined Ciena in 1996 and has served as Vice President, Controller since August 1997 and served as Treasurer from August 1997 to October 2008.

David M. Rothenstein joined Ciena in January 2001 and has served as Senior Vice President, General Counsel and Secretary since November 2008. Mr. Rothenstein served as Vice President and Associate General Counsel from July 2004 to October 2008 and previously as Assistant General Counsel.

Harvey B. Cash has served as a Director of Ciena since April 1994. Mr. Cash is a general partner of InterWest Partners, a venture capital firm in Menlo Park, California, which he joined in 1985. Mr. Cash serves on the board of directors of First Acceptance Corp., Silicon Laboratories, Inc. and Argonaut Group, Inc. and has previously served on the boards of directors of i2 Technologies, Inc., Voyence, Inc. and Staktek Holdings, Inc.

Bruce L. Claflin has served as a Director of Ciena since August 2006. Mr. Claflin served as President and Chief Executive Officer of 3Com Corporation from January 2001 until his retirement in February 2006. Mr. Claflin joined 3Com as President and Chief Operating Officer in August 1998. Prior to 3Com, Mr. Claflin served as Senior Vice President and General Manager, Sales and Marketing, for Digital Equipment Corporation. Mr. Claflin also worked for 22 years at IBM, where he held various sales, marketing and management positions, including general manager of IBM PC Company's worldwide research and development, product and brand management, as well as president of IBM PC Company Americas. Mr. Claflin also serves on the board of directors of Advanced Micro Devices (AMD), where he is currently Chairman of the Board and Chairman of its Nominating and Governance Committee.

Lawton W. Fitt has served as a Director of Ciena since November 2000. From October 2002 to March 2005, Ms. Fitt served as Director of the Royal Academy of Arts in London. From 1979 to October 2002, Ms. Fitt was an investment banker with Goldman Sachs & Co., where she was a partner from 1994 to October 2002, and a managing director from 1996 to October 2002. In addition to her service as a director of non-profit organizations, Ms. Fitt currently serves on the boards of directors of Thomson Reuters, The Carlyle Group LP and The Progressive Corporation, and she has previously served on the boards of directors of Overture Acquisition Corporation and

Frontier Communications Company.

Judith M. O'Brien has served as a Director of Ciena since July 2000. Since November 2012, Ms. O'Brien has served as a partner and head of the Emerging Company Practice Group at the law firm of King & Spalding. Ms. O'Brien served as Executive Vice President and General Counsel of Obopay, Inc., a provider of mobile payment services, from November 2006 through December 2010. From February 2001 until October 2006, Ms. O'Brien served as a Managing Director at Incubic Venture Fund, a venture capital firm. From August 1980 until February 2001, Ms. O'Brien was a lawyer with Wilson Sonsini Goodrich & Rosati, where, from February 1984 to February 2001, she was a partner specializing in corporate finance, mergers and acquisitions and general corporate matters. Ms. O'Brien serves on the board of directors of Theatro Labs, Inc, a privately-held company, and has previously served on the board of directors of Adaptec, Inc.

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Michael J. Rowny has served as a Director of Ciena since August 2004. Mr. Rowny has been Chairman of Rowny Capital, a private equity firm, since 1999. From 1994 to 1999, and previously from 1983 to 1986, Mr. Rowny was with MCI Communications in positions including President and Chief Executive Officer of MCI's International Ventures, Alliances and Correspondent group, acting Chief Financial Officer, Senior Vice President of Finance, and Treasurer. Mr. Rowny's career in business and government has also included positions as Chairman and Chief Executive Officer of the Ransohoff Company, Chief Executive Officer of Hermitage Holding Company, Executive Vice President and Chief Financial Officer of ICF Kaiser International, Inc., Vice President of the Bendix Corporation, and Deputy Staff Director of the White House. Mr. Rowny also serves on the board of directors of Neustar, Inc.

Patrick T. Gallagher has served as a Director of Ciena since May 2009. Mr. Gallagher currently serves as Chairman of Harmonic Inc, a public company and global provider of high-performance video solutions to the broadcast, cable, telecommunications and managed service provider sectors. From March 2008 until April 2012, Mr. Gallagher was Chairman of Ubiquisys Ltd., a leading developer and supplier of femtocells for the global 3G mobile wireless market. From January 2008 until February 2009, Mr. Gallagher was Chairman of Macro 4 plc, a global software solutions company, and from May 2006 until March 2008, served as Vice Chairman of Golden Telecom Inc., a leading facilities-based provider of integrated communications in Russia and the CIS. From 2003 until 2006, Mr. Gallagher was Executive Vice Chairman and served as Chief Executive Officer of FLAG Telecom Group and, prior to that role, held various senior management positions at British Telecom. Mr. Gallagher also serves on the board of directors of Sollers JSC.

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### Item 1A. Risk Factors

Investing in our securities involves a high degree of risk. In addition to the other information contained in this report, you should consider the following risk factors before investing in our securities.

Our revenue and operating results can fluctuate significantly and unpredictably from quarter to quarter. Our revenue and results of operations can fluctuate significantly and unpredictably from quarter to quarter. Our budgeted expense levels depend in part on our projections of future revenue and gross margin, and substantial reductions in expense can take time to implement. Uncertainty or lack of visibility into customer spending, and changes in economic or market conditions that affect customer spending, can make it difficult to forecast future revenue and margins. In addition, increases in the percentage of a given quarter's revenue generated from orders placed during that quarter, along with significant order volume late that quarter, could further result in variability and less predictability in our quarterly revenue and cash flow. Consequently, our level of operating expense or inventory may be high relative to revenue, which could harm our profitability and cash flow. Additional factors that contribute to fluctuations in our revenue and operating results include:

- broader macroeconomic conditions, including weakness and volatility in global markets, that affect our customers;
- changes in capital spending by large communications service providers;
- order flow and backlog levels;
- the timing of our ability to recognize revenue on sales;
- the mix of revenue by product segment, geography and customer in any particular quarter;
- the level of competition and pricing pressure we encounter;
- seasonal effects in our business;
- the level of start-up costs we incur to support initial deployments, gain new customers or enter new markets; and
- our level of success in improving manufacturing efficiencies and achieving cost reductions in our supply chain.

Quarterly fluctuations from these and other factors may cause our results of operations to fall short of or significantly exceed the expectations of securities analysts or investors, which may cause volatility in our stock price.

We face intense competition that could hurt our sales and results of operations.

We face a competitive market for sales of communications networking equipment, software and services, and this level of competition could result in pricing pressure, reduced demand, lower gross margins and loss of market share that could harm our business and results of operations. Competition is particularly intense as we and our competitors aggressively seek to displace incumbent equipment vendors at large service providers and secure new customers. In an effort to secure customer opportunities and capture market share, we have in the past, and may in the future, agree to commercial terms or pricing that result in low or negative gross margins on a particular order or group of orders. We expect this level of competition to continue or potentially increase, as multinational equipment vendors seek to promote adoption of their network architectural approaches and retain incumbent positions with large customers around the world. We also expect our competitive landscape to broaden. As network technologies, features and layers converge and demands for software programmability of networks increases, we expect that our business will overlap more directly with additional networking suppliers, including IP router vendors, system integrators, software vendors and other information technology vendors.

Competition in our markets, generally, is based on any one or a combination of the following factors: product features; functionality and performance; price; services offerings; manufacturing capability and lead-times; incumbency and existing business relationships; scalability and flexibility of products to meet the immediate and future network; and service requirements of network operators. A small number of very large companies have historically dominated our industry, many of which have substantially greater financial and marketing resources,



broader product offerings and more established relationships with service providers and other customer segments than we do. In addition, a number of these vendors are putting forth competing visions for how next-generation network architectures should be designed. Because of their scale and resources, they may be perceived to be a better fit for the procurement, or network operating and management, strategies of large service providers. We also compete with a number of smaller companies that provide significant competition for a specific product, application, customer segment or geographic market. Due to the narrower focus of their efforts, these competitors may achieve commercial availability of their products more quickly or may be more attractive to customers. If competitive pressures increase or we fail to compete successfully in our markets, our business and results of operations could suffer.

Our business and operating results could be adversely affected by unfavorable changes in macroeconomic and market conditions and reductions in the level of capital expenditure by customers in response to these conditions.

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Our business and operating results could be materially adversely affected by reduced customer spending in response to unfavorable or uncertain macroeconomic and market conditions, globally or with respect to a particular region where we operate. Broad macroeconomic weakness and market volatility have previously resulted in sustained periods of decreased demand for our products and services that have adversely affected our operating results. Macroeconomic and market conditions could be adversely affected by a variety of political, economic or other factors in the United States and elsewhere that could adversely affect spending levels, as well as create volatility or deteriorating conditions in the markets in which we operate. Continuation of, or an increase in, macroeconomic uncertainty or weakness could result in:

- reductions in customer spending and delay, deferral or cancellation of network infrastructure initiatives;
- increased competition for fewer network projects and sales opportunities;
- increased pricing pressure that may adversely affect revenue, gross margin and profitability;
- difficulty forecasting, budgeting and planning;
- higher overhead costs as a percentage of revenue;
- tightening of credit markets needed to fund capital expenditures by our customers and us;
- customer financial difficulty, including longer collection cycles and difficulties collecting accounts receivable or write-offs of receivables; and
- increased risk of charges relating to excess and obsolete inventories and the write-off of other intangible assets.

Reductions in customer spending in response to unfavorable or uncertain macroeconomic and market conditions, globally or with respect to a particular region where we operate, would adversely affect our business and results of operations.

A small number of large communications service providers account for a significant portion of our revenue, and the loss of any of these customers, or a significant reduction in their spending, would have a material adverse effect on our business and results of operations.

A significant portion of our revenue is concentrated among a few, large global communications service providers. By way of example, AT&T accounted for approximately 17.9% of fiscal 2013 revenue, and our largest ten customers contributed 59.4% of fiscal 2013 revenue. Consequently, our financial results are closely correlated with the spending of a relatively small number of service provider customers and can be significantly affected by market or industry changes that affect their businesses. These factors can include consumer and enterprise spending on communication services, macroeconomic volatility, the adoption of new communications products and services, the emergence of competing network operators and changing demands of end user customers. Because the terms of our framework contracts do not obligate customers to purchase any minimum or guaranteed order quantities, spending by these service providers can be unpredictable and sporadic, our revenue and operating results can fluctuate on a quarterly basis. Reliance upon a relatively small number of service providers increases our exposure to changes in their network and purchasing strategies. Some of our customers are pursuing efforts to outsource the management and operation of their networks, or have indicated a procurement strategy to reduce the number of vendors from which they purchase equipment, which may benefit our larger competitors. Our concentration in revenue has increased in the past as a result of consolidation among a number of our largest customers. Consolidation may increase the likelihood of temporary or indefinite reductions in customer spending or changes in network strategy that could harm our business and operating results. The loss of one or more of our large service provider customers, a significant reduction in their spending, or market or industry factors adversely affecting service providers generally, would have a material adverse effect on our business, financial condition and results of operations.

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

We maintain a global sourcing strategy and depend on third party suppliers for support in our product design and development and the sourcing of key product components and subsystems. Our products include optical and electronic components for which reliable, high-volume supply is often available only from sole or limited sources. Increases in market demand or scarcity of resources or manufacturing capability have previously resulted in shortages in availability of important components for our solutions, allocation challenges and increased lead times. We are exposed to risks relating to unfavorable economic conditions or other similar challenges affecting the businesses of our component providers that can affect their liquidity levels, ability to continue investing in their businesses, and manufacturing capability. This could expose our business to increased costs, lack of supply or discontinuation of components that can result in lost revenue, additional product costs, increased lead times and deployment delays that could harm our business and customer relationships. We do not have any guarantee of supply from these third parties, and in certain cases are relying upon temporary or transitional commercial arrangements. As a result, there is no assurance that we will be able to secure the components or subsystems that we require, in sufficient quantity and quality on reasonable terms. The loss of a source of supply, or lack of sufficient availability of key

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components, could require that we locate an alternate source or redesign our products, each of which could increase our costs and negatively affect our product gross margin and results of operations. Our business and results of operations would be negatively affected if we were to experience any significant disruption or difficulties with key suppliers affecting the price, quality, availability or timely delivery of required components.

Investment of research and development resources in communications networking technologies for which there is not a matching market opportunity, or failure to sufficiently or timely invest in technologies for which there is market demand, would adversely affect our revenue and profitability.

The market for communications networking equipment is characterized by rapidly evolving technologies and changes in market demand. We continually invest in research and development to sustain or enhance our existing products and to develop or acquire new product technologies. Our current development efforts are focused upon enhancing our software and network-level applications, extending our OneConnect control plane across the 5400 and 6500 platform families, expanding packet applications on service delivery switches, aggregation switches, and coherent optical transport platforms, extending our WaveLogic chipset, enabling 40G and 100G coherent optical transport across our portfolio, and introducing 400G transmission products. There is often a lengthy period between commencing these development initiatives and bringing new or improved products to market. During this time, technology preferences, customer demand and the market for our products, or those introduced by our competitors, may move in directions we had not anticipated. There is no guarantee that our new products or enhancements will achieve market acceptance or that the timing of market adoption will be as predicted. There is a significant possibility, therefore, that some of our development decisions, including significant expenditures on acquisitions, research and development costs, or investments in technologies, will not turn out as anticipated, and that our investment in some projects will be unprofitable. There is also a possibility that we may miss a market opportunity because we failed to invest, or invested too late, in a technology, product or enhancement sought by our customers. Changes in market demand or investment priorities may also cause us to discontinue existing or planned development for new products or features, which can have a disruptive effect on our relationships with customers. If we fail to make the right investments or fail to make them at the right time, our competitive position may suffer and our revenue and profitability could be harmed. We may experience delays in the development of our products that may negatively affect our competitive position and business.

Our products are based on complex technology, and we can experience unanticipated delays in developing and manufacturing these solutions. Our current development efforts are focused upon enhancing our software applications, extending our OneConnect control plane across the 5400 and 6500 platform families, expanding packet applications on service delivery switches, aggregation switches, and coherent optical transport platforms, extending our WaveLogic chipset for 40G and 100G coherent optical transport across our portfolio and introducing 400G transmission products. Delays in these and other product development efforts may affect our reputation with customers, affect our ability to seize market opportunities and impact the timing and level of demand for our products. Each step in the development life cycle of our products presents serious risks of failure, rework or delay, any one of which could adversely affect the cost-effective and timely development of our products. We may encounter delays relating to engineering development activities and software, design, sourcing and manufacture of critical components, and the development of prototypes. In addition, intellectual property disputes, failure of critical design elements, and other execution risks may delay or even prevent the release of these products. If we do not successfully develop products in a timely manner, our competitive position may suffer and our business, financial condition and results of operations could be harmed.

Product performance problems and undetected errors affecting the performance, reliability or security of our products could damage our business reputation and negatively affect our results of operations.

The development and production of sophisticated hardware and software for communications network equipment is complicated. Some of our products can be fully tested only when deployed in communications networks or when

carrying traffic with other equipment. As a result, undetected defects or errors, and product quality, interoperability, reliability and performance problems are often more acute for initial deployments of new products and product enhancements. We are in the process of launching a number of new platforms. Unanticipated product performance problems can relate to the design, manufacturing and installation of our products. Undetected errors can also arise as a result of defects in components, software or manufacturing, installation or maintenance services supplied by third parties, and technology acquired from or licensed by third parties. Unanticipated security vulnerabilities relating to our products or the activities of our supply chain, including any actual or perceived exposure of our solutions to malicious software or cyber-attacks, would adversely affect our business and reputation. Product performance, reliability, security and quality problems can negatively affect our business, including through:

• damage to our reputation, declining sales and order cancellations;

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- increased costs to remediate defects or replace products;
- payment of liquidated damages, contractual or similar penalties, or other claims for performance failures or delays;
- increased warranty expense or estimates resulting from higher failure rates, additional field service obligations or other rework costs related to defects;
- increased inventory obsolescence;
  - costs and claims that may not be covered by liability insurance coverage or recoverable from third parties;
  - and
- delays in recognizing revenue or collecting accounts receivable.

These and other consequences relating to undetected errors affecting the quality, reliability and security of our products could negatively affect our business and results of operations.

Network equipment sales to large communications service providers often involve lengthy sales cycles and protracted contract negotiations and may require us to assume commercial terms or conditions that negatively affect pricing, risk allocation, payment and the timing of revenue recognition.

A significant portion of our revenue comes from sales to large communications service providers. These sales typically involve lengthy sales cycles, extensive product testing, and demonstration laboratory or network certification, including network-specific or region-specific product certification or homologation processes. These sales also often involve protracted and sometimes difficult contract negotiations in which we may deem it necessary to agree to unfavorable contractual or commercial terms that adversely affect pricing, expose us to penalties for delays or non-performance, and require us to assume a disproportionate amount of risk. We may also be requested to provide deferred payment terms, vendor or third-party financing, or offer other alternative purchase structures that extend the timing of payment and revenue recognition. Moreover, our purchase agreements generally do not include minimum purchase commitments, and customers often have the right to modify, delay, reduce or cancel previous orders. These terms may negatively affect our revenue and results of operations and increase our susceptibility to quarterly fluctuations in our financial results. Moreover, service providers may insist upon terms and conditions that we deem too onerous or not in our best interest, and we may be unable to reach a commercial agreement. As a result, we may incur substantial expense and devote time and resources to potential sales opportunities that never materialize or result in lower than anticipated sales.

Efforts by us or by our strategic third party channel partners to sell our solutions into targeted geographic markets and customer segments may be unsuccessful.

We continue to take steps, including sales initiatives and strategic channel relationships, to sell our products into new markets, growth geographies and diverse customer segments beyond our traditional service provider customer base. Specifically, we are targeting opportunities in Brazil, the Middle East, Russia, Japan and India. We are also targeting sales opportunities with enterprises, wireless operators, cable operators, submarine network operators, content service providers, cloud infrastructure providers, research and education institutions, and federal, state and local governments. We believe sales to these customer segments, as well as emerging network operators supporting new communications services and applications, will be an important component of our growth strategy. In many cases, we have less experience in these markets and customer segments, and they may have less familiarity with our company. To succeed in some of these geographic markets and customer segments we have engaged or intend to leverage strategic sales channels and distribution arrangements and expect these relationships to be an important part of our business. Our efforts may be unsuccessful, and difficulties selling into these target markets, including through third party channels, could limit our growth and harm our results of operations.

The international scale of our operations exposes us to additional risk and expense that could adversely affect our results of operations.

We market, sell and service our products globally and rely upon a global supply chain for sourcing important components and manufacturing of our products. Our international operations are subject to inherent risks, including:

- the impact of economic conditions in countries outside the United States;
- effects of changes in currency exchange rates;
- greater difficulty in collecting accounts receivable and longer collection periods;
- difficulty and cost of staffing and managing foreign operations;
- less protection for intellectual property rights in some countries;
- adverse tax and customs consequences, particularly as related to transfer-pricing issues;
- social, political and economic instability;
- higher incidence of corruption or unethical business practices that could expose us to liability or damage our reputation;
- trade protection measures, export compliance, domestic preference procurement requirements, qualification to transact business and additional regulatory requirements; and

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natural disasters, epidemics and acts of war or terrorism.

We expect that we may enter new international markets and withdraw from or reduce operations in others. Our global operations expose us to additional risk and expense that could give rise to unanticipated liabilities, costs or other difficulties that could adversely affect our operations and financial results.

We may be required to write off significant amounts of inventory as a result of our inventory purchase practices, the obsolescence of product lines or unfavorable market conditions.

To avoid delays and meet customer demand for shorter delivery terms, we place orders with our contract manufacturers and component suppliers based in part on forecasts of customer demand. As a result, our business is exposed to the risk that our customers ultimately may not order the products we have forecast, or will purchase fewer products than forecast. As features and functionalities converge across our product lines, and we introduce new products with overlapping feature sets, it is increasingly possible that customers may forgo purchases of one product we have inventoried in favor of another product with similar functionality. Market uncertainty can also limit our visibility into customer spending plans and compound the difficulty of forecasting inventory at appropriate levels. Moreover, our customer purchase agreements generally do not include any minimum purchase commitment, and customers often have the right to modify, reduce or cancel purchase quantities. We may also be exposed to the risk of inventory write offs as a result of certain supply chain initiatives, including consolidation and transfer of key manufacturing activities. As a result, we may purchase inventory in anticipation of sales that ultimately do not occur. If we are required to write off or write down a significant amount of inventory, our results of operations for the period would be materially adversely affected.

Our intellectual property rights may be difficult and costly to enforce.

We generally rely on a combination of patents, copyrights, trademarks and trade secret laws to establish and maintain proprietary rights in our products and technology. Although we have been issued numerous patents and other patent applications are currently pending, there can be no assurance that any of these patents or other proprietary rights will not be challenged, invalidated or circumvented, or that our rights will provide us with any competitive advantage. In addition, there can be no assurance that patents will be issued from pending applications or that claims allowed on any patents will be sufficiently broad to protect our technology. Further, the laws of some foreign countries may not protect our proprietary rights to the same extent as do the laws of the United States.

We are subject to the risk that third parties may attempt to access, divert or use our intellectual property without authorization. Protecting against the unauthorized use of our products, technology and other proprietary rights is difficult, time-consuming and expensive, and we cannot be certain that the steps that we are taking will prevent or minimize the risks of such unauthorized use. Litigation may be necessary to enforce or defend our intellectual property rights or to determine the validity or scope of the proprietary rights of others. Such litigation could result in substantial cost and diversion of management time and resources, and there can be no assurance that we will obtain a successful result. Any inability to protect and enforce our intellectual property rights, despite our efforts, could harm our ability to compete effectively.

We may incur significant costs in response to claims by others that we infringe their intellectual property rights.

From time to time third parties may assert claims or initiate litigation or other proceedings related to patent, copyright, trademark and other intellectual property rights to technologies and related standards that are relevant to our business. The rate of infringement assertions by patent assertion entities is increasing, particularly in the United States.

Generally, these patent owners neither manufacture nor use the patented invention directly, and simply seek to derive value from their ownership through royalties from patent licensing programs.

We can be adversely affected by litigation, other proceedings or claims against us, as well as claims against our manufacturers, suppliers or customers, alleging infringement of third party proprietary rights by our products and technology, or components thereof. Regardless of the merit of these claims, they can be time-consuming, divert the time and attention of our technical and management personnel, and result in costly litigation. These claims, if successful, can require us to:

pay substantial damages or royalties;



- comply with an injunction or other court order that could prevent us from offering certain of our products;
- seek a license for the use of certain intellectual property, which may not be available on commercially reasonable terms or at all;
- develop non-infringing technology, which could require significant effort and expense and ultimately may not be successful; and
- indemnify our customers or other third parties pursuant to contractual obligations to hold them harmless or pay expenses or damages on their behalf.

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Any of these events could adversely affect our business, results of operations and financial condition. Our exposure to risks associated with the use of intellectual property may be increased as a result of acquisitions, as we have a lower level of visibility into the development process with respect to such technology and the steps taken to safeguard against the risks of infringing the rights of third parties.

Our failure to manage effectively our relationships with third party service partners could adversely impact our financial results and relationship with customers.

We rely on a number of third party service partners, both domestic and international, to complement our global service and support resources. We rely upon these partners for certain installation, maintenance and support functions. In addition, as network operators seek to increasingly rely on vendors to perform additional services relating to the design, construction and operation of their networks, the scope of work performed by our support partners is likely to increase and may include areas where we have less experience providing or managing such services. We must successfully identify, assess, train and certify qualified service partners in order to ensure the proper installation, deployment and maintenance of our products, and the skillful performance of other services associated with expanded solutions offerings, including site assessment and construction related services. Vetting and certification of these partners can be costly and time-consuming, and certain partners may not have the same operational history, financial resource and scale as Ciena. Moreover, certain partners may provide similar services for other companies, including our competitors. We may not be able to manage effectively our relationships with our service partners and cannot be certain that they will be able to deliver services in the manner or time required or that we will be able to maintain the continuity of their services. We may also be exposed to a number of risks or challenges relating to the performance of our service partners, including:

- we may suffer delays in recognizing revenue;
- we may be exposed to liability for injuries to persons, damage to property or other claims relating to the actions or omissions of our service partners;
- our services revenue and gross margin may be adversely affected; and
- our relationships with customers could suffer.

If we do not manage effectively our relationships with third party service partners, or if they fail to perform these services in the manner or time required, our financial results and relationships with customers could be adversely affected.

We may be exposed to unanticipated risks and additional obligations in connection with our resale of complementary products or technology of other companies.

We have entered into agreements with strategic supply partners that permit us to distribute their products or technology. We may rely upon these relationships to add complementary products or technologies, diversify our product portfolio, or address a particular customer or geographic market. We may enter into additional original equipment manufacturer (OEM), resale or similar strategic arrangements in the future. We may incur unanticipated costs or difficulties relating to our resale of third party products. Our third party relationships could expose us to risks associated with the business, financial condition, intellectual property rights and supply chain continuity of such partners, as well as delays in their development, manufacturing or delivery of products or technology. We may also be required by customers to assume warranty, indemnity, service and other commercial obligations, including potential liability to customers, greater than the commitments, if any, made to us by our technology partners. Some of our strategic supply partners are relatively small companies with limited financial resources. If they are unable to satisfy their obligations to us or our customers, we may have to expend our own resources to satisfy these obligations. Exposure to these risks could harm our reputation with key customers and negatively affect our business and our results of operations.

Our exposure to the credit risks of our customers and resellers may make it difficult to collect receivables and could adversely affect our revenue and operating results.

In the course of our sales to customers and resale channel partners, we may have difficulty collecting receivables and our business and results of operations could be exposed to risks associated with uncollectible accounts. Lack of liquidity in the capital markets, macroeconomic weakness and market volatility may increase our exposure to these credit risks. Our attempts to monitor these situations carefully and take appropriate measures to protect ourselves may not be sufficient, and it is possible that we may have to write down or write off accounts receivable. Such write-downs or write-offs could negatively affect our operating results for the period in which they occur, and, if large, could have a material adverse effect on our revenue and operating results.

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Our business is dependent upon the proper functioning of our internal business processes and information systems and modification or interruption of such systems may disrupt our business, processes and internal controls.

We rely upon a number of internal business processes and information systems to support key business functions, and the efficient operation of these processes and systems is critical to our business. Our business processes and information systems need to be sufficiently scalable to support the growth of our business and may require modifications or upgrades that expose us to a number of operational risks. We are currently pursuing initiatives to transform and optimize our business operations through the reengineering of certain processes, investment in automation and engagement of strategic partners or resources to assist with certain business functions. These changes may be costly and disruptive to our operations, and could impose substantial demands on management time.

These changes may also require changes in our information systems, modification of internal control procedures and significant training of employees or third party resources. There can be no assurance that our business and operations will not experience any disruption in connection with this transition. Our information technology systems, and those of third party information technology providers or business partners, may also be vulnerable to damage or disruption caused by circumstances beyond our control, including catastrophic events, power anomalies or outages, natural disasters, viruses or malware, and computer system or network failures. We may also be exposed to cyber-security related incidents, including unauthorized access of information systems and disclosure or diversion of intellectual property or confidential data. There can be no assurance that our business systems or those of our third party business partners would not be subject to similar incidents, exposing us to significant cost, reputational harm and disruption or damage to our business.

Data breaches and cyber-attacks could compromise our intellectual property or other sensitive information and cause significant damage to our business and reputation.

In the ordinary course of our business, we maintain sensitive data on our networks, including our intellectual property and proprietary or confidential business information relating to our business and that of our customers and business partners. The secure maintenance of this information is critical to our business and reputation. Companies in the technology industry have been increasingly subject to a wide variety of security incidents, cyber-attacks and other attempts to gain unauthorized access. Our network and storage applications may be subject to unauthorized access by hackers or breached due to operator error, malfeasance or other system disruptions. In some cases, it is difficult to anticipate or immediately detect such incidents and the damage caused thereby. These data breaches and any unauthorized access or disclosure of our information could compromise our intellectual property and expose sensitive business information. Cyber-attacks could also cause us to incur significant remediation costs, disrupt key business operations and divert attention of management and key information technology resources. These incidents could also subject us to liability, expose us to significant expense, and cause significant harm to our reputation and business.

Outstanding indebtedness under our convertible notes may adversely affect our liquidity and results of operations and could limit our business.

At October 31, 2013, indebtedness on our outstanding convertible notes totaled approximately \$1.2 billion in aggregate principal, including the accretion of principal at maturity on our 2020 Notes. 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;
- incurrence of debt service and repayment obligations that 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.

During fiscal 2012, we entered into a \$150 million senior secured asset-based revolving Credit Facility. In addition to customary remedies that would apply should we default under the credit agreement governing this facility, we may be subject to lender control over certain cash assets and required to comply with a fixed charge coverage ratio in the event that we do not maintain the requisite level of availability under the facility. The credit agreement also contains customary covenants that limit our ability to, among other things, pay cash dividends, incur debt, create liens and encumbrances, redeem or repurchase stock, enter into certain acquisition transactions, repay indebtedness, make investments or dispose of assets. The Credit Facility matures on August 13, 2015, provided that it will mature early on December 15, 2014, if any of Ciena's 4.0% convertible senior notes due March 15, 2015 are then outstanding. We may also enter into additional transactions or lending facilities, including equipment

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loans, working capital lines of credit and other long-term debt, that may increase our indebtedness and result in additional restrictions upon our business.

Significant volatility and uncertainty in the capital markets may limit our access to funding.

We have accessed the capital markets in the past and successfully raised funds, through the issuance of equity or convertible debt, to increase our cash position, support our operations and undertake strategic growth initiatives. We regularly evaluate our liquidity position, debt obligations, and anticipated cash needs to fund our long-term operating plans and may consider it necessary or advisable to raise additional capital in the future. Global capital markets have undergone periods of significant volatility and uncertainty in recent years, and there can be no assurance that such financing alternatives would be available to us, should we determine it necessary or advisable to seek additional cash resources.

Facilities transitions could be disruptive to our operations and may result in unanticipated expense and adverse effects on our cash position and cash flows.

We have recently undertaken and expect to undertake a number of significant facilities transitions affecting a number of our largest employee populations. The lease of our “Lab 10” building on the Carling Campus in Ottawa, Canada will expire in fiscal 2017, and we are currently considering facilities and development alternatives in advance of the expiration of this lease. In addition, the lease for our research and development facility in Gurgaon, India will expire in October 2014. While we have an agreement to lease for periods beyond such date, the parties have not yet executed an extension of the lease. Both locations include sophisticated research and development lab equipment and significant headcount including key engineering personnel. Locating appropriate alternative space for our engineering operations may be costly, and there can be no assurance that the transition of key engineering functions to a successor facility will not be disruptive or adversely affect productivity. Significant facilities transitions could be disruptive to our operations and may result in unanticipated expense and adverse effects on our cash position and cash flows.

Restructuring activities could disrupt our business and affect our results of operations.

We have previously taken steps, including reductions in force, office closures, and internal reorganizations to reduce the size and cost of our operations, improve efficiencies, or realign our organization and staffing to better match our market opportunities and our technology development initiatives. We may take similar steps in the future as we seek to realize operating synergies, optimize our operations to achieve our target operating model and profitability objectives, or better reflect changes in the strategic direction of our business. These changes could be disruptive to our business, including our research and development efforts, and may result in significant expense, including accounting charges for inventory and technology-related write-offs, workforce reduction costs and charges relating to consolidation of excess facilities. Substantial expense or charges resulting from restructuring activities could adversely affect our results of operations and use of cash in those periods in which we undertake such actions.

If we are unable to attract and retain qualified personnel, we may be unable to manage our business effectively.

Competition to attract and retain highly skilled technical, engineering and other personnel with experience in our industry is intense, and our employees have been the subject of targeted hiring by our competitors. We may experience difficulty retaining and motivating existing employees and attracting qualified personnel to fill key positions. Because we rely upon equity awards as a significant component of compensation, particularly for our executive team, a lack of positive performance in our stock price, reduced grant levels, or changes to our compensation program may adversely affect our ability to attract and retain key employees. The loss of members of our management team or other key personnel could be disruptive to our business, and, were it necessary, it could be difficult to replace members of our management team or other key personnel. In addition, none of our executive officers is bound by an employment agreement for any specific term. If we are unable to attract and retain qualified

personnel, we may be unable to manage our business effectively, and our operations and results of operations could suffer.

We may be adversely affected by fluctuations in currency exchange rates.

As a global concern, we face exposure to adverse movements in foreign currency exchange rates. Historically, our sales were primarily denominated in U.S. dollars. As a result of our increased global presence, a larger percentage of our revenue and operating expense are now non-U.S. dollar denominated and therefore subject to foreign currency fluctuation. We face exposure to currency exchange rates as a result of the growth in our non-U.S. dollar denominated operating expense in Canada, Europe, Asia and Latin America. From time to time, we may hedge against currency exposure associated with anticipated foreign currency cash flows. There can be no assurance that any hedging instruments will be effective, and losses associated with these instruments and the adverse effect of foreign currency exchange rate fluctuation may negatively affect our results of operations.

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Our products incorporate software and other technology under license from third parties, and our business would be adversely affected if this technology were no longer available to us on commercially reasonable terms.

We integrate third party software and other technology into our embedded operating system, network management system tools and other products. Licenses for this technology may not be available or continue to be available to us on commercially reasonable terms. Third party licensors may insist on unreasonable financial or other terms in connection with our use of such technology. Our failure to comply with the terms of any license, including free open source software, may result in our inability to continue to use such license, which may result in significant costs and require us to obtain or develop a substitute technology. As networks become more open and software programmable, we expect that communications networking solutions vendors, including Ciena, will increasingly contribute to and use technology developed by standards settings bodies or other industry forums that seek to promote the integration of network layers and functions. This may increase risks associated with our use or reliance upon third party or open source software. Difficulty obtaining and maintaining third party technology licenses may disrupt development of our products and increase our costs.

Strategic acquisitions and investments may expose us to increased costs and unexpected liabilities.

We may acquire or make investments in other technology companies, or enter into other strategic relationships, to expand the markets we address, diversify our customer base or acquire or accelerate the development of technology or products. To do so, we may use cash, issue equity that would dilute our current stockholders' ownership, or incur debt or assume indebtedness. These transactions involve numerous risks, including:

- significant integration costs;
- disruption due to the integration and rationalization of operations, products, technologies and personnel;
- diversion of management attention;
- difficulty completing projects of the acquired company and costs related to in-process projects;
- loss of key employees;
- ineffective internal controls over financial reporting;
- dependence on unfamiliar suppliers or manufacturers;
- exposure to unanticipated liabilities, including intellectual property infringement claims; and
- adverse tax or accounting effects including amortization expense related to intangible assets and charges associated with impairment of goodwill.

As a result of these and other risks, our acquisitions, investments or strategic transactions may not reap the intended benefits and may ultimately have a negative impact on our business, results of operation and financial condition.

Changes in government regulation affecting the communications industry and the businesses of our customers could harm our prospects and operating results.

The Federal Communications Commission, or FCC, has jurisdiction over the U.S. communications industry, and similar agencies have jurisdiction over the communication industries in other countries. Many of our largest customers, including service providers and multiservice network operators, are subject to the rules and regulations of these agencies. Changes in regulatory requirements applicable to wireline or wireless communications and the Internet in the United States or other countries could serve as a disincentive to providers to invest in their communications network infrastructures or introduce new services. These changes could adversely affect the sale of our products and services. Changes in regulatory tariff requirements or other regulations relating to pricing or terms of carriage on communications networks could slow the development or expansion of network infrastructures and adversely affect our business, operating results, and financial condition.



Government regulations affecting the use, import or export of products could adversely affect our operations and negatively affect our revenue and increase our costs.

The United States and various foreign governments have imposed controls, license requirements and other restrictions on the usage, import or export of some of the technologies that we sell. Government regulation of usage, import or export of our products, technology within our products, or our failure to obtain required approvals for our products, could harm our international and domestic sales and adversely affect our revenue and costs of sales. Failure to comply with such regulations could result in enforcement actions, fines or penalties and restrictions on export privileges. In addition, costly tariffs on our equipment, restrictions on importation, trade protection measures and domestic preference requirements of certain countries could limit our access to these markets and harm our sales. For example, India's government has implemented security regulations applicable to network equipment vendors, and has imposed significant tariffs that may inhibit sales of certain

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communications equipment, including equipment manufactured in China, where certain of our products are assembled. These and other regulations could adversely affect the sale or use of our products, substantially increase our cost of sales and adversely affect our business and revenue.

Government regulations related to the environment and potential climate change could adversely affect our business and operating results.

Our operations are regulated under various federal, state, local and international laws relating to the environment and potential climate change. If we were to violate or become liable under these laws or regulations, we could incur fines, costs related to damage to property or personal injury, and costs related to investigation or remediation activities. Our product design efforts and the manufacturing of our products are also subject to evolving requirements relating to the presence of certain materials or substances in our equipment, including regulations that make producers for such products financially responsible for the collection, treatment and recycling of certain products. For example, our operations and financial results may be negatively affected by environmental regulations, such as the Waste Electrical and Electronic Equipment (WEEE) and Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) that have been adopted by the European Union. Compliance with these and similar environmental regulations may increase our cost of designing, manufacturing, selling and removing our products. These regulations may also make it difficult to obtain supply of compliant components or may require us to write off non-compliant inventory, which could have an adverse effect on our business and operating results.

We may be required to write down long-lived assets, and these impairment charges would adversely affect our operating results.

As of October 31, 2013, our balance sheet includes \$366.9 million in long-lived assets, which includes \$185.8 million of intangible assets. Valuation of our long-lived assets requires us to make assumptions about future sales prices and sales volumes for our products. These assumptions are used to forecast future, undiscounted cash flows upon which our estimates are based. Periods of significant uncertainty or instability of macroeconomic conditions can make forecasting future business difficult. If actual market conditions differ or our forecasts change, we may be required to reassess long-lived assets and could record an impairment charge. Any impairment charge relating to long-lived assets would have the effect of decreasing our earnings or increasing our losses in such period. If we are required to take a substantial impairment charge, our operating results would be materially adversely affected in such period.

Failure to maintain effective internal controls over financial reporting could have a material adverse effect on our business, operating results and stock price.

Section 404 of the Sarbanes-Oxley Act of 2002 requires that we include in our annual report a report containing management's assessment of the effectiveness of our internal controls over financial reporting as of the end of our fiscal year and a statement as to whether or not such internal controls are effective. Compliance with these requirements has resulted in, and is likely to continue to result in, significant costs and the commitment of time and operational resources. Changes in our business, including certain initiatives to transform business processes, to invest in information systems or to transition certain functions to third party resources or providers, will necessitate modifications to our internal control systems, processes and information systems as we optimize our business and operations. Our increased global operations and expansion into new regions could pose additional challenges to our internal control systems. We cannot be certain that our current design for internal control over financial reporting, or any additional changes to be made, will be sufficient to enable management to determine that our internal controls are effective for any period, or on an ongoing basis. If we are unable to assert that our internal controls over financial reporting are effective, market perception of our financial condition and the trading price of our stock may be adversely affected, and customer perception of our business may suffer.

Our stock price is volatile.

Our common stock price has experienced substantial volatility in the past and may remain volatile in the future. Volatility in our stock price can arise as a result of a number of the factors discussed in this “Risk Factors” section. During fiscal 2013, our closing stock price ranged from a high of \$27.67 per share to a low of \$13.16 per share. The stock market has experienced significant price and volume fluctuation that has affected the market price of many technology companies, with such volatility often unrelated to the operating performance of these companies. Divergence between our actual or anticipated financial results and published expectations of analysts can cause significant swings in our stock price. Our stock price could also be affected by announcements that we, our competitors, or our customers may make, particularly announcements related to acquisitions or other significant transactions. Our common stock is included in certain market indices and any change in the composition of these indices to exclude our company would adversely affect our stock price. These and other factors affecting macroeconomic conditions or financial markets may materially adversely affect the market price of our common stock in the future.

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Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Overview. As of October 31, 2013, all of our properties are leased and we do not own any real property. We lease facilities globally related to the ongoing operations of our four business segments and related functions. Our principal executive offices are located in two buildings in Hanover, Maryland. In addition, we currently occupy two supply chain and logistics facilities in Linthicum, Maryland.

Our largest facility is our research and development center located at “Lab 10” on the former Nortel Carling Campus in Ottawa, Canada. See below for information regarding the lease associated with this engineering facility. We also have engineering and/or service facilities located in San Jose, California; Alpharetta, Georgia; Spokane, Washington; Kanata, Canada; and Gurgaon, India. In addition, we lease various smaller offices in the United States, Mexico, South America, Europe, the Middle East and the Asia-Pacific region to support our sales and services operations. We believe the facilities we are now using are adequate and suitable for our business requirements.

Hanover, Maryland Headquarters Lease. Ciena entered into a lease agreement dated November 3, 2011, with W2007 RDG Realty, L.L.C. relating to office space for its new corporate headquarters in Hanover, Maryland, consisting of an agreed-upon rentable area of approximately 154,100 square feet. At the commencement date, the minimal rental commitments to be paid over the 15-year lease term were approximately \$61.8 million.

Carling, Ottawa Lease. Ciena Canada, Inc., a subsidiary of Ciena, and Public Works and Government Services Canada (PWGSC) are parties to a lease agreement relating to Ciena’s lease of the “Lab 10” building on the former Nortel Carling Campus in Ottawa, Canada (the “Lease”). This facility consists of a rentable area of 265,000 square feet. During the term of the lease, we will incur lease expense, consisting of both base rent and fixed additional operating expense, ranging from approximately CAD \$7.2 million per year to approximately CAD \$10.9 million. The Lease, originally entered into in March 2010 with an affiliate of Nortel as part of Ciena's acquisition of Nortel's Metro Ethernet Networks assets, initially had a ten-year term, but was subject to an early termination feature that allowed Nortel to reduce the term of the lease in exchange for its payment of an early termination fee of up to \$33.5 million. In October 2010, Nortel sold the Carling Campus, including the "Lab 10" building, to PWGSC, which directed Nortel in December 2010 to exercise its early termination right. Accordingly, during the first quarter of fiscal 2011, Ciena received from Nortel both notice of early termination shortening the Lease to five years and the corresponding \$33.5 million early termination payment. The Lease was subsequently amended, however, to extend the term to September 18, 2017.

Restructuring. We attempt to sublease properties that we no longer occupy. As part of our restructuring costs, we provide for the estimated cost of the future net lease expense for these facilities. The cost is based on the fair value of future minimum lease payments under contractual obligations offset by the fair value of the estimated future sublease payments that we may receive. As of October 31, 2013, our accrued restructuring liability related to these properties was \$1.9 million. If actual market conditions relating to the use of these facilities are less favorable than those projected by management, additional restructuring costs associated with these facilities may be required. For additional information regarding our lease obligations, see Note 20 to the Consolidated Financial Statements in Item 8 of Part II of this annual report.

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## Item 3. Legal Proceedings

On July 26, 2013, Ciena and Cheetah Omni LLC entered into a settlement agreement relating to patent litigation pending in the United States District Court for the Eastern District of Texas. The proceeding arose on July 29, 2011, when Cheetah Omni filed a complaint against Ciena and several other defendants alleging that certain of the parties' products infringe upon multiple U.S. patents relating to reconfigurable optical add-drop multiplexer (ROADM) technologies. The complaint sought injunctive relief and damages. Under the terms of the settlement, Ciena agreed to make a one-time payment of \$1.5 million to Cheetah Omni in exchange for a fully paid-up license to all of the patents-in-suit, a release from all claims for damages and other relief relating to such patents, and a covenant not to sue Ciena at any time on any non-medical patents owned by or assigned to Cheetah Omni on the effective date of the settlement agreement and through July 26, 2017. On August 9, 2013, the district court granted the parties' joint stipulation of dismissal with prejudice.

On May 29, 2008, Graywire, LLC filed a complaint in the United States District Court for the Northern District of Georgia against Ciena and four other defendants, alleging, among other things, that certain of the parties' products infringe U.S. Patent 6,542,673 (the "673 Patent"), relating to an identifier system and components for optical assemblies. The complaint seeks injunctive relief and damages. In July 2009, upon request of Ciena and certain other defendants, the U.S. Patent and Trademark Office ("PTO") granted the defendants' inter partes application for reexamination with respect to certain claims of the '673 Patent, and the district court granted the defendants' motion to stay the case pending reexamination of all of the patents-in-suit. In December 2010, the PTO confirmed the validity of some claims and rejected the validity of other claims of the '673 Patent and Ciena and other defendants filed an appeal. On March 16, 2012, the PTO on appeal rejected multiple claims of the '673 Patent, including the two claims on which Ciena is alleged to infringe. Subsequently, the plaintiff requested a reopening of the prosecution of the '673 Patent, which request was denied by the PTO on April 29, 2013. Thereafter, on May 28, 2013, the plaintiff filed an amendment with the PTO in which it canceled the claims of the '673 Patent on which Ciena is alleged to infringe. The case currently remains stayed, and there can be no assurance as to whether or when the stay will be lifted.

In addition to the matters described above, we are subject to various legal proceedings and claims arising in the ordinary course of business, including claims against third parties that may involve contractual indemnification obligations on the part of Ciena. We do not expect that the ultimate costs to resolve these matters will have a material effect on our results of operations, financial position or cash flows.

## Item 4. Mine Safety Disclosures

Not applicable.

## PART II

## Item 5. Market for Registrant's Common Stock, Related Stockholder Matters and Issuer Purchases of Equity Securities

(a) During fiscal 2013, our common stock was traded on the NASDAQ Global Select Market under the symbol "CIEN." On December 12, 2013, we announced our intention to transfer the listing of our common stock from the NASDAQ Global Select Market to the New York Stock Exchange, effective on or about December 23, 2013. Ciena common stock will continue to trade under the stock symbol "CIEN."

The following table sets forth the high and low sales prices of our common stock, as reported on the NASDAQ Global Select Market, for the fiscal periods indicated.

	High	Low
Fiscal Year 2012		
First Quarter ended January 31	\$15.34	\$10.38
Second Quarter ended April 30	\$17.16	\$13.44
Third Quarter ended July 31	\$16.81	\$11.49
Fourth Quarter ended October 31	\$17.98	\$12.17

Fiscal Year 2013

First Quarter ended January 31	\$16.48	\$13.16
Second Quarter ended April 30	\$17.53	\$14.32
Third Quarter ended July 31	\$22.96	\$14.91
Fourth Quarter ended October 31	\$27.67	\$19.92

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As of December 12, 2013, there were approximately 800 holders of record of our common stock and 103,708,240 shares of common stock outstanding. We have never paid cash dividends on our capital stock. We intend to retain earnings for use in our business, and we do not anticipate paying any cash dividends in the foreseeable future.

The following graph shows a comparison of cumulative total returns for an investment in our common stock, the NASDAQ Telecommunications Index and the NASDAQ Composite Index from October 31, 2008 to October 31, 2013. The NASDAQ Composite Index measures all domestic and international based common stocks listed on The Nasdaq Stock Market. The NASDAQ Telecommunications Index contains securities of NASDAQ-listed companies classified according to the Industry Classification Benchmark as Telecommunications and Telecommunications Equipment, which include providers of fixed-line and mobile telephone services, and makers and distributors of high-technology communication products. This graph is not deemed to be "filed" with the SEC or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the graph shall not be deemed to be incorporated by reference into any prior or subsequent filing by us under the Securities Act of 1933, as amended, or the Exchange Act.

Assumes \$100 invested in Ciena Corporation, the NASDAQ Telecommunications Index and the NASDAQ Composite Index, respectively, on October 31, 2008 with all dividends reinvested at month-end.

(b) Not applicable.

(c) Not applicable.

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## Item 6. Selected Consolidated Financial Data

The following selected consolidated financial data should be read in conjunction with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the Consolidated Financial Statements and the notes thereto included in Item 8, “Financial Statements and Supplementary Data.” We have a 52 or 53-week fiscal year, which ends on the Saturday nearest to the last day of October in each year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 2009, 2010, 2011 and 2013 consisted of 52 weeks and fiscal 2012 consisted of 53 weeks.

	Year Ended October 31,				
	(in thousands)				
	2009	2010	2011	2012	2013
Cash and cash equivalents	\$485,705	\$688,687	\$541,896	\$642,444	\$346,487
Short-term investments	\$563,183	\$—	\$—	\$50,057	\$124,979
Long-term investments	\$8,031	\$—	\$50,264	\$—	\$15,031
Total assets	\$1,504,383	\$2,118,093	\$1,951,418	\$1,881,143	\$1,802,770
Short-term convertible notes payable	\$—	\$—	\$—	\$216,210	\$—
Long-term convertible notes payable	\$798,000	\$1,442,705	\$1,442,364	\$1,225,806	\$1,212,019
Total liabilities	\$1,048,545	\$1,958,800	\$1,937,545	\$1,970,115	\$1,885,447
Stockholders’ equity (deficit)	\$455,838	\$159,293	\$13,873	\$(88,972 )	