

**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, 2014**

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)

21076

(Zip Code)

(410) 694-5700

(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$0.01 par value	New York Stock Exchange

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

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

Indicate by check mark 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 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):

Large accelerated filer

Accelerated filer

Non-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 \$2.0 billion based on the closing price of the Common Stock on the New York Stock Exchange on May 2, 2014.

The number of shares of Registrant's Common Stock outstanding as of December 12, 2014 was 106,985,271 .

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 2015 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.

CIENA CORPORATION
ANNUAL REPORT ON FORM 10-K
FOR FISCAL YEAR ENDED OCTOBER 31, 2014

TABLE OF CONTENTS

	Page
PART I	
Item 1. Business	3
Item 1A. Risk Factors	17
Item 1B. Unresolved Staff Comments	29
Item 2. Properties	29
Item 3. Legal Proceedings	30
Item 4. Mine Safety Disclosures	30
PART II	
Item 5. Market for Registrant’s Common Stock, Related Stockholder Matters and Issuer Purchases of Equity Securities	31
Item 6. Selected Consolidated Financial Data	33
Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	35
Item 7A. Quantitative and Qualitative Disclosures about Market Risk	57
Item 8. Financial Statements and Supplementary Data	59
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	95
Item 9A. Controls and Procedures	96
Item 9B. Other Information	96
PART III	
Item 10. Directors, Executive Officers and Corporate Governance	97
Item 11. Executive Compensation	97
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	97
Item 13. Certain Relationships and Related Transactions, and Director Independence	97
Item 14. Principal Accountant Fees and Services	97
PART IV	
Item 15. Exhibits and Financial Statement Schedules	98
Signatures	99
Index to Exhibits	100

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 communications networking solutions that enable converged, next-generation architectures, optimized to create and deliver the broad array of high-bandwidth 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. These solutions enable network operators to adopt software-programmable network infrastructures that offer the on-demand experience required by end users of services and applications. At the same time, these solutions yield business and operational value for network operators.

Our Converged Packet Optical, Packet Networking, Optical Transport and Software products are used, individually or as part of an integrated solution, in networks operated by communications service providers, cable operators, Web-scale providers, governments, enterprises, research and education institutions and other network operators across the globe. Our products allow network operators to scale capacity, increase transmission speeds, allocate network traffic and adapt to changing end-user demands through rapid service creation and delivery. Our solutions also include network management and control software and network-level software applications that facilitate automation and efficient service delivery. To complement our hardware and software solutions, 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.

The rapid proliferation of communications services and devices, together with increased mobility and growth in cloud-based services, have fundamentally affected the demands placed upon communications networks and how they are designed. Network operators also face a rapidly changing business environment that includes a shifting competitive landscape and challenges to existing business models. Our OPⁿ Architecture, and the increased network scalability, flexibility and programmability that it enables, is designed to meet these challenges. Our OPⁿ network approach allows for network-level software applications to control and configure the network dynamically, while flexible interfaces integrate computing, storage and network resources. This approach enables highly configurable infrastructures that can meet the "on-demand" requirements of end-users and the changing services they rely upon. By enhancing software programmability and control, enabling network functions virtually, and reducing required network elements, our OPⁿ approach optimizes network infrastructures to connect content data centers, and users to such content. At the same time, our approach creates business and operational value for our customers by increasing scale at reduced cost and facilitating rapid introduction of new, revenue-generating service offerings. Our OPⁿ 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 \$2.3 billion in fiscal 2014, as compared to \$2.1 billion in fiscal 2013. 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. We organize our operations into four separate operating segments: “Converged Packet Optical,” “Packet Networking,” “Optical Transport,” and “Software and Services.” See Note 20 to the Consolidated Financial Statements found in Item 8 of Part II of this annual report.

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.

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. 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. Information contained on our website is not a part of this annual report.

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, technology convergence, increased mobility, and evolving cloud-based service offerings and end-user demands. These conditions have created market opportunities and challenges that have impacted how networks are designed, as well as the competitive landscapes of network operators and the vendors that support them. 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 the costs of their network and to ensure a profitable business model. These dynamics are driving technology convergence of network features, functions and layers, virtualization of certain network functions, and the adoption of software-based network control and programmability. We believe that these dynamics, and the need to adapt to changing business conditions, are creating an environment that will cause network operators to adopt infrastructures that are more open, programmable and automated. We also believe that these conditions will require vendors and network operators to leverage an open ecosystem of virtualized resources provided by a variety of third parties and will drive increased openness and interoperability of network infrastructures.

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. Increasing network traffic is being driven by growing use of, and reliance upon, a broad range of bandwidth-intensive communications services by consumer and business end users. Mobile applications, including applications related to Internet, video and data services that have expanded along with the proliferation of smartphones, tablets and other wireless devices are further increasing network traffic. Business customers are increasingly dependent upon enterprise services and data center connectivity that facilitate global operations, employee mobility and access to critical business applications and data, including by way of cloud-hosted services. At the same time, network traffic growth is being driven by consumer-oriented applications and adoption of mobile and broadband technologies. These include peer-to-peer Internet applications, video services, multimedia downloads and cloud-based consumer services. We believe that this traffic growth will require network operators to adopt higher capacity networks with increased transmission speeds, particularly in metro service aggregation and switching applications.

Transition to Software-Defined Programmable Network Architectures

We expect that end-user reliance upon a broadening mix of data and video communications services, together with their expectation of an on-demand network experience, will require upgrades to existing wireline and wireless network infrastructures. These factors, together with network operators' increased focus on controlling the cost of the networks, are driving a transition from static, purpose-built networks to programmable network infrastructures controlled by software. By leveraging software programmability, network operators can adapt more quickly to changing end-user demands, provide network functions on demand through virtual platforms, and enable more efficient service delivery. This transition in how networks are designed and implemented can also enable network operators to improve the economics of their networks by accelerating service creation and delivery, reducing reliance upon function-specific hardware elements and addressing power and space considerations.

Changes Impacting our Network Operator Customers

We believe the following are illustrative of the shift toward on-demand networking requirements and the changes impacting the design and adoption of next-generation network infrastructures.

- *"Cloud" Services.* Cloud services are characterized by the sharing of remotely hosted computing, storage and network resources across a network to improve economics through higher utilization of networked elements. Prevalent cloud-based services include Platform as a Service (PaaS), Software as a Service (SaaS) and Infrastructure as a Service (IaaS). Through cloud-based arrangements, smaller enterprises and consumers can subscribe to an expanding range of services to replace local computing and storage requirements. Larger enterprises and data center operators can 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 from the cloud to end users. As a result, network architectures must be capable of adapting in real time to changing capacity requirements and locations.

- *Mobility*. Smart mobile devices and tablets that deliver integrated voice, audio, photo, video, email and mobile Internet capabilities are rapidly changing the services and data traffic carried by wireless networks. 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. As a result, network architectures must be able to scale capacity cost effectively and to adapt to address a changing mix of end user services.
- *Network Virtualization*. Virtualization is the decoupling of physical IT or communications assets from the services or capabilities they can provide. These virtualization principles, previously applied to computing and storage resources, now are being applied to communications networks. Network operators are seeking to virtualize costly, single-function or dedicated network appliances, such as firewalls and wide area network (WAN) accelerators, by deploying their functionality virtually over centralized, generic servers. This is sometimes called "network function virtualization" or "NFV." We believe that virtualization of network elements can reduce cost, add network flexibility and put a greater emphasis on the value of network connectivity.
- *Over-the-Top (OTT) Content*. Over-the-Top (OTT) content refers to video, television and other services delivered directly from the content provider to the viewer or end user. These services are delivered and Internet connection provided by a network operator different from the content provider. OTT content is imposing significant demands upon the infrastructures of communications service providers and multi-service operators as bandwidth-intensive traffic associated with this content continues to grow. At the same time, providers of OTT content are challenging the business models of such network operators as some end-users perceive significant value in the OTT content or service, whereas in the past, such end users were more focused on the value of the connectivity.
- *Machine-to-Machine (M2M) Applications*. 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 seeing 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

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

Promotion of Our OPⁿ Architecture. Our OPⁿ Architecture enables a programmable infrastructure that brings together the reliability and capacity of optical networking with the flexibility and economics of packet networking technologies. Our OPⁿ Architecture leverages this convergence to enable network operators to scale their networks efficiently and cost effectively, while applying advanced software-based network control and network-level software applications for enhanced programmability. The software-driven aspects of this architecture become increasingly important as network operators increasingly seek to leverage an open ecosystem of virtualized resources to enable the real-time analytics and network agility required for on-demand, next-generation network architectures. We see opportunities in offering a portfolio of OPⁿ Architecture solutions that facilitate the transition to these next-generation networks and that are optimized to create new services rapidly and meet end-user demands.

Research and Development Investment to Expand the Role and Application of Our Solutions. Our product development initiatives are focused on opportunities that enable Ciena to expand its role in customer networks and to address a more diverse set of network applications. We are investing in our OPⁿ Architecture with current development efforts focused on expanding high-capacity service delivery capabilities in our Packet Networking and Converged Packet Optical products for metro networks, data center interconnectivity and wide area network applications. Our research and development efforts also seek to extend our existing technologies, including our WaveLogic coherent optical processor for 200G and 400G optical transport, and to introduce one Terabit and greater transmission speeds. In the packet area, we are increasing the scale, density and capability of our packet offerings, and improving power and space considerations, for applications in metro networks, user aggregation and data center connectivity. In the software area, we are focusing on Agility Matrix, our network function virtualization (NFV)

solution, in order to provide virtual network functions in managed service applications. We are also focused on increasing programmability and software control of networks. These efforts include our joint initiative with Ericsson to develop an expanded software-defined networking (SDN) multilayer WAN controller that spans network layers, as well as Ciena's direct efforts to develop software-based networking control platforms and network-level software applications.

Go-to-Market Model to Expand Our Role and Reach. Our go-to-market model is focused on driving sales growth from the diversification of our business and further penetrating additional customer verticals and international markets. We are focused on further penetrating Internet content providers, data center operators and other emerging network operators that form the "Web-scale" marketplace, and who are changing the ways in which information and services are accessed and provided. To expand the geographic reach of our direct sales resources, we have pursued strategic channel opportunities that enable sales through third parties, including service providers, systems integrators and value-added resellers. Through the packet-optical resale element of our strategic relationship with Ericsson, we are seeking to expand our geographic reach, as well as the application of our products in customer networks. We also remain focused on expanding the application of our products by existing customers, including communications service provider customers and cable and multiservice operators. These sales efforts seek opportunities for our solutions in applications including metro aggregation, data center interconnectivity, managed services offerings, cloud-based services, business Ethernet services and mobile backhaul.

Business optimization to yield operating leverage. We are actively pursuing initiatives to improve our gross margin, constrain operating expense and redesign certain business processes, systems, and resources. These initiatives include portfolio optimization and engineering efforts to drive improved efficiencies in the design and development of our solutions and procurement initiatives to consolidate vendors and ensure that our cost model remains ahead of market-based price erosion. We are also focused on transforming our supply chain, including efforts to reduce our material and overhead costs, reduce customer lead times and improve inventory management and logistics. Our initiatives also include significant investments in the re-engineering of company-wide enterprise resource planning platforms, improved automation of key business processes and systems, and the off-shoring of certain business functions. We seek to leverage these initiatives to promote the profitable growth of our business and to drive additional operating leverage.

Customers and Markets

We sell our product and service solutions, through direct and indirect sales channels, to 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. 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, 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. 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.

Web-scale Providers

Our customers include a diverse range of Internet content providers focused on applications such as search, social media, video, real-time communications and cloud-based offerings to consumers and enterprises. Customers within this segment also include data center operators and other emerging network operators that are often focused on virtualized infrastructure and Ethernet exchanges. These customers are sometimes collectively included in a customer segment referred to as "Web-scale" providers. These customers often require massive scale, low latency, reliability and performance to interconnect critical data centers and connect end users to network resources and content.

Enterprise

Our enterprise customers include large, multi-site commercial organizations, including participants in the financial, health care, transportation, utilities and retail industries. 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.

Government, Research and Education (R&E)

Our government customers include federal and state agencies in the United States as well as international government entities. Our R&E customers include research and education institutions in the United States and abroad, as well as communities or consortia including leaders in research, academia, industry and government. Customers in this segment seek to take advantage of technology innovation, improve their information infrastructure and facilitate increased collaboration. Our solutions feature ultra-high capacity required to meet the requirements of supercomputing systems, as well as network assurance and security features required by customers in this segment.

Products and Services

Our product portfolio consists of our Converged Packet Optical, Packet Networking and Optical Transport products. Our product offering also includes a suite of software solutions that unify our product portfolio and provide automation, software-defined management and control features, and NFV to 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 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. We now have the third generation of our custom silicon chipset in the market. WaveLogic 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 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 deliver new, revenue-generating services to consumer and enterprise end users. 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 to deliver business data

services. As a key element of our OPⁿ 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 enables network infrastructures to adapt to new service demands of end users.

During fiscal 2014, we introduced our 8700 Packetwave platform, a multi-terabit packet switching platform for high-density metro networks and inter-data center wide area networks. The 8700 combines high-capacity Ethernet switching and optical transport technologies from both data center networks and metro networks, to help network operators rapidly deliver cloud-based services, streaming video, and Internet content distribution, efficiently aggregate users, and provide express connections to data centers. By increasing the density of traffic carried, while reducing power and space requirements, the 8700 also enables network operators to reduce capital and operating expense associated with their networks and to simplify service management and enablement.

To date, revenue relating to our Packet Networking segment has been primarily related to our 3000 family of service delivery switches and service aggregation switches, and our 5000 family of service aggregation switches. Our 3000 and 5000 families support the access and aggregation tiers of communications networks and have principally been deployed to support business data services and wireless backhaul infrastructures. 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.

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

Agility Software Portfolio

During fiscal 2014, we launched our Agility software portfolio and established a team of dedicated resources focused on the development of network control platforms and network-level software application technologies that enable an on-demand user experience. This portfolio includes the recently introduced Agility Matrix, our network functions virtualization (NFV) solution for the acquisition and distribution of virtualized network functions (VNF) in managed service applications. This portfolio also includes an expanded SDN multilayer WAN controller, being jointly developed with Ericsson, that spans network layers, our Navigate multilayer path computation engine and network-level software applications that enable WAN services over an open network ecosystem. Our V-WAN application provides service providers the tools to offer enterprise, content provider, and cloud services to end users in a more automated and self-service oriented manner. Our other Agility network-level software applications, including Protect and Optimize, enable network operators to improve reliability, to allow for more rapid network restoration, and to better monetize cloud-based services. Certain solutions relating to this portfolio are in early stage development, or have only recently been announced, and therefore no revenue relating to this portfolio was recognized in fiscal 2014.

Network Management and Planning Software

Our integrated software offering includes network management and control solutions and planning tools. Our OneControl Unified Management System is an integrated network and service management offering 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 track individual services across multiple product suites and facilitate network maintenance and outage detection. This robust, service-aware framework improves network utilization and availability, while delivering enhanced performance monitoring and network reliability. Our 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.

Ciena Specialist 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 services offerings enable us to work closely with our customers in the assessment, planning, deployment, and transformation of their networks. We believe that our 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 on an individualized basis.

Our services and support portfolio includes the following offerings:

- Network transformation solutions, including:
 - Network analysis, planning and design; and
 - Network optimization, migration, modernization, monetization 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;
- SDN and NFV-related services including network audit and solution integration and migration support;
- Network management and operations center services; and
- Project management services, including staging, site preparation and installation support activities.

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

Product Development

Our industry is subject to rapid technological developments, emerging service delivery requirements and shifts in customer and end-user network demand. To remain competitive, we must continually enhance our product platforms and add new features and functionality to ensure alignment with these changing dynamics. Our research and development strategy has been to enable scalable, software-configurable network infrastructures that can dynamically enable service delivery and provide an on-demand end-user experience. Our OP[®] 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. Our product development initiatives include design and development work intended to address growing opportunities for the application of our solutions, such as metropolitan networks, data center interconnectivity, enterprise networking, and packet-based infrastructure solutions for high-capacity cloud-based service delivery. To address these opportunities and promote our OP[®] Architecture network vision, our current development efforts are focused upon:

- Developing products that increase software-based network control, including:
 - SDN multi-layer WAN controller;
 - network level applications that automate various network functions, support new service introduction and monetize network assets; and
 - platforms that enable virtualization of network features or functions traditionally supported by hardware elements.
- Enhancing and extending our Packet-Optical and Packet Networking solutions, including:
 - Extending our leadership in coherent transport platforms, at 40G, 100G, and 400G;
 - Continued development of our WaveLogic coherent optical processor to improve network capacity, transmission speed, spectral efficiency and reach; and
 - 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;

- Designing products 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.

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. 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.

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 \$364.2 million, \$383.4 million and \$401.2 million, for fiscal 2012, 2013 and 2014, 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

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. Within each geographic area, we may maintain specific teams or personnel that focus on a particular region, country, customer or market vertical. These teams include sales management, account salespersons, and systems engineers, as well as services and commercial management personnel, who ensure we operate closely with and provide a high level of support to our customers.

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 include the packet-optical resale element of our strategic relationship with Ericsson. 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 see opportunities to leverage our strategic channel relationships to address additional customer segments, additional applications for our solutions and growth geographies. 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, elements of our global products group team also address component 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 the manufacturing of our products. We also rely upon these contract manufacturers and other third parties to perform design and prototype development, component procurement, full production, final assembly, testing and customer order 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 may incur carrying charges or obsolete material charges for components purchased by our manufacturers that are not ultimately used. 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.

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 also include process optimization and initiatives, such as vendor-managed inventory models, to drive improved efficiencies in our sourcing, logistics and fulfillment.

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 our 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 decreased from \$1.0 billion as of October 31, 2013 to \$824 million as of October 31, 2014. Reduced backlog levels as of the end of fiscal 2014 are not unexpected and reflect, in part, the continued diversification of our customer base to include Web-scale providers and other network operators requiring shorter lead times to support the on-demand requirements of their end users, and the impact of an increasing portion of quarterly revenue related to orders placed and converted to revenue during the same quarter. Backlog includes product and service orders from commercial and government customers combined. Backlog at October 31, 2014 includes approximately \$180 million primarily related to orders for maintenance and support services, that are not expected to be filled within fiscal 2015. Backlog at October 31, 2013 included approximately \$167 million primarily related to orders for maintenance and support services, that were not expected to be filled within fiscal 2014. 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 by 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 technologies, introduction of new networking solutions and intense selling efforts to displace incumbent vendors and to capture market share. Successfully competing in these markets is based on any one or a combination of the following factors:

- 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 meet customers' immediate and future network requirements;
- flexibility and openness of platforms, including ease of integration, interoperability and integrated management;
- manufacturing and lead-time capability; and
- services and support capabilities.

In this intense and fragmented competitive environment, securing new opportunities often requires that we agree to unfavorable commercial terms or pricing 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, 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 and networks come under unified software management and control. As these changes occur, and requirements for software programmability and network function 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, ECI, Infinera, RAD 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 the intellectual property protections afforded by patents, copyrights, trademarks, and trade secret laws to establish, maintain and enforce rights in our proprietary technologies and product branding. We maintain an invention incentive program that seeks to reward innovation and an invention review board that selects appropriate protection mechanisms for our technology. 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, 2014, we had 1,466 issued U.S. patents, 209 pending U.S. patent applications and over 459 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 we cannot be certain that the steps that we are taking will detect or prevent all unauthorized use. The industry in which we compete is characterized by rapidly changing technology, a large number of patents, and frequent claims and related litigation regarding patent and other intellectual property rights. We have been subject to several claims related to patent infringement, including by competitors and by non-practicing entities or "patent trolls," and we 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, we may be required to redesign our products or we may be prohibited from selling any infringing technology in certain jurisdictions.

Our operating system, element and network management and control software and other solutions incorporate software and components under licenses from third parties, including software subject to various open source software licenses. As network requirements for increased software programmability increase, and we continue to advance our OPn Architecture through the development and sale of network level applications, we may be required to incorporate open source software or 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 could require us to re-engineer our products or to obtain alternate technologies. Moreover, there is a risk that open source licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products.

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, 2014, we had a global workforce consisting of 5,161 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.

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.	71	Executive Chairman of the Board of Directors
Gary B. Smith	54	President, Chief Executive Officer and Director
Stephen B. Alexander	55	Senior Vice President and Chief Technology Officer
James A. Frodsham	48	Senior Vice President and Chief Strategy Officer
François Locoh-Donou	43	Senior Vice President, Global Products Group
Philippe Morin	49	Senior Vice President, Global Field Organization
James E. Moylan, Jr.	63	Senior Vice President, Finance and Chief Financial Officer
Andrew C. Petrik	51	Vice President and Controller
David M. Rothenstein	46	Senior Vice President, General Counsel and Secretary
Harvey B. Cash (1)(3)	76	Director
Bruce L. Claflin (1)(2)	63	Director
Lawton W. Fitt (2)	61	Director
T. Michael Nevens (2)	64	Director
Judith M. O'Brien (1)(3)	64	Director
Michael J. Rowny (2)	64	Director
Patrick T. Gallagher (1)(3)	59	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: Messrs. Claflin, Nevens and Gallagher in 2015; Ms. Fitt, Dr. Nettles and Mr. Rowny in 2016; and Ms. O'Brien and Messrs. Cash and Smith in 2017; .

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 Apptrigger, 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 boards 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 & Data Networking.

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. 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 boards 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 The Carlyle Group LP and The Progressive Corporation, and she has previously served on the boards of directors of Thomson Reuters, Overture Acquisition Corporation and Frontier Communications Company.

T. Michael Nevens has served as a Director of Ciena since February 2014. Since 2006, Mr. Nevens has served as senior adviser to Permira Advisers, LLC, an international private equity fund. From 1980 to 2002, Mr. Nevens held various leadership positions at McKinsey & Co., most recently as a director (senior partner) and as managing partner of the firm's Global Technology Practice. He also served on the board of the McKinsey Global Institute, which conducts research on economic and policy issues. Mr. Nevens is a member of the Advisory Council of the Mendoza College of Business at the University of Notre Dame, where he has been an adjunct professor of Corporate Governance and Strategy. Mr. Nevens also serves on the boards of directors of NetApp, Inc., Altera Corporation, and Active Video Networks, Inc., a privately held 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.

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 is also Chairman of Intercloud SAS, a Paris-headquartered provider of global private cloud connectivity services. Mr. Gallagher also serves on the board of directors of Sollers JSC.

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 are based on our visibility into customer spending plans and our projections of future revenue and gross margin. Substantial reductions in our expense levels to react to deviations from our projections can take time to implement. Uncertain economic or market conditions, and changes in customer spending levels, can make it difficult to forecast future revenue and margins. Some of our large existing communications service provider customers have announced their intent to constrain capital spending, including in future periods. Other such customers are pursuing purchasing strategies or adopting procurement approaches intended to drive reductions in spending or to consolidate the number of their direct suppliers of networking technology. By way of example, the impact of these initiatives contributed to quarterly fluctuation in our results in the fourth quarter of fiscal 2014. 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 volume, cancellations and timing;
- backlog levels and the percentage of a given quarter's revenue generated from orders placed during that quarter;
- the level of competition and pricing pressure we encounter;
- the impact of commercial concessions or unfavorable commercial terms required to maintain incumbency or secure new opportunities with key customers;
- the level of start-up costs we incur to support initial deployments, gain new customers or enter new markets;
- the timing of revenue recognition on sales, particularly relating to large orders;
- the mix of revenue by product segment, geography and customer in any particular quarter;
- manufacturing capacity;
- installation service availability and readiness of customer sites;
- seasonal effects in our business; and
- our level of success in improving manufacturing efficiencies and achieving cost reductions in our supply chain.

In recent periods, the percentage of a given quarter's revenue that we generate from orders placed during that quarter has increased, which may make it more difficult to predict accurately our quarterly results of operations and may increase the likelihood of fluctuations in our results. The factors above could cause our level of operating expense or inventory to be high relative to revenue, which could harm our profitability and cash flow. Quarterly fluctuations from these and other factors may also 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.

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.

While our customer base has diversified in recent years to include a number of network operators and customer verticals, 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 18.5% of fiscal 2014 revenue, and our largest ten customers contributed 56.4% of fiscal 2014 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, industry or competitive dynamics affecting their businesses. Our reliance upon a relatively small number of service provider customers also increases our exposure to changes in their network priorities and purchasing strategies. Our service provider customers have previously undertaken, and may undertake in the future, procurement initiatives to support their network strategy, which initiatives may include reductions in capital expenditure, commercial concessions from suppliers and reductions in the number of direct suppliers of networking technology. By way of example, in September 2014, we announced that Ciena had been selected by AT&T as a participating vendor in its Domain 2.0 supplier program. The Domain 2.0 initiative is the next generation of AT&T's Supplier Domain Program, intended to enable AT&T to quickly transition to next-generation, cloud-based architectures that embrace NFV and SDN, and accelerate AT&T's time to market with new products and services. Our commercial arrangement relating to this opportunity adversely impacted our revenue and gross margin in the fourth quarter of fiscal 2014, and is expected to have a proportionately lesser impact on our results in first quarter of fiscal 2015 and future quarterly periods. Because the terms of our

framework contracts, including with respect to our Domain 2.0 opportunity, do not obligate customers to purchase any minimum or guaranteed order quantities, spending by service provider customers can be unpredictable. A significant change in network priorities, a reduction in spending by our key customers, the loss of one or more of our large service provider customers, or market or industry factors adversely affecting service providers generally, could have a material adverse effect on our business, financial condition and results of operations.

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, both in the U.S. and abroad, as we and our competitors aggressively seek to displace incumbent equipment vendors at large service providers and secure new customers. In an effort to maintain our incumbency and secure additional customer opportunities, we have in the past, and may in the future, agree to aggressive pricing, commercial concessions and other unfavorable terms that reduce our revenue and 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 competing architectural approaches for next-generation networks and retain incumbent positions with large customers globally. We also expect our competitive landscape to broaden. As network technologies, features and layers converge, and demands for software programmability, management and control increase, we expect that our business will overlap more directly with additional networking solution 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 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 meet customers' immediate and future network requirements;
- flexibility and openness of platforms, including ease of integration, interoperability and integrated management;
- manufacturing and lead-time capability; and
- services and support capabilities.

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. 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 in a particular product niche. 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 spending by customers in response to these conditions.

Our business and operating results, which depend significantly on general economic conditions and demand for our products and services, could be materially adversely affected by 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 of our customers and their end users, and create volatility or deteriorating conditions in the markets in which we operate. 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 operating results and making decisions about budgeting, planning and future investments;
- higher overhead and production 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, results of operations and financial condition.

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 in the sourcing of key product components and subsystems. Our products include optical and electronic components for which reliable, high-volume supply is often available only from sole or limited sources. 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 and results of operations of our component providers that can affect their liquidity levels, ability to continue investing in their businesses, and manufacturing capability. These and other challenges affecting our suppliers could expose our business to increased costs, loss or lack of supply, or discontinuation of components that can result in lost revenue, additional product costs, increased lead times and deployment delays that could harm our business and customer relationships. We do not have any guarantees 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 components, could require that we locate an alternate source or redesign our products, either of which could result in business interruption, increase 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 hardware and software solutions and to develop or acquire new technologies. There is often a lengthy period between commencing these development initiatives and bringing new or improved solutions to market. During this time, technology preferences, customer demand and the markets for our solutions, 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.

Network equipment sales to communications service providers, Web-scale providers and other large customers 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.

Our sales initiatives, particularly with communications service providers, Web-scale providers and other large customers, often involve lengthy sales cycles. These selling efforts often involve a significant commitment of time and resources by us and our customers that may include extensive product testing, laboratory or network certification, network or region-specific product certification and homologation requirements for deployment in networks. Even after a customer awards its business or decides to purchase our solutions, the length of deployment time can vary depending upon the customer's or site's readiness, the size of the network deployment, the degree of configuration required and other factors. Additionally, 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 other alternative purchase structures that extend the timing of payment and revenue recognition. To maintain incumbency with key customers for existing and future business opportunities, we may be required to offer discounted pricing or offer less favorable commercial terms as compared to our historical business arrangements with these customers. By way of example, our commercial arrangement with AT&T relating to its Domain 2.0 vendor program adversely impacted our revenue and gross margin in the fourth quarter of fiscal 2014, and is expected to have a proportionately lesser impact on our results in first quarter of fiscal 2015 and future quarterly periods. 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. Alternatively, customers 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.

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. 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. The development of new technologies may increase the complexity of supply chain management or require the acquisition, licensing or inter-working with the technology of third parties. As a result, each step in the development 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 highly complex. Some of our products can be fully tested only when deployed in communications networks or when carrying traffic with other equipment, and software products may contain bugs that can interfere with expected operations. 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 have recently launched, and are in the process of launching, a number of new hardware and software platforms. Unanticipated product performance problems can relate to the design, manufacturing, installation, operation and interoperability 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. From time to time we have had to replace certain components, provide software remedies or other remediation in response to defects or bugs. There can be no assurance that such remediation would not have a material impact on our business. In addition, 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, and may result in some or all of the following effects:

- damage to our reputation, declining sales and order cancellations;
- 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.

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.

In order to sell our products into new geographic markets, diversify our customer base beyond our traditional customers and broaden the application for our solutions in communications networks, we continue to promote sales initiatives and foster strategic channel sales relationships, including the packet-optical resale element of our strategic relationship with Ericsson. Specifically, we are targeting sales opportunities with Web-scale providers, cloud infrastructure providers, enterprises, wireless operators, cable operators, submarine network operators, research and education institutions, and federal, state and local governments. We also seek to expand our geographic reach and increase market share in international markets, including Brazil, the Middle East and India. To succeed in some of these geographic markets and customer segments we believe that we need to leverage strategic sales channels and distribution arrangements successfully, and we expect these relationships to be an important part of our business. There can be no assurance we will realize the expected benefits of these third party sales partners. In some cases we compete in certain business areas with our third party channel partners or may have divergent interests. Our efforts to manage and drive the intended benefits of such sales relationships may ultimately be unsuccessful, and difficulties selling through our third party channels could limit our growth and could harm our results of operations.

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

We market, sell and service our products globally, maintain personnel in numerous countries and rely upon a global supply chain for sourcing important components and manufacturing our products. Our international sales and 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;
- compliance with certain testing, homologation or customization of products to conform to local standards;
- 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
- natural disasters, epidemics and acts of war or terrorism.

Our international operations are also subject to complex foreign and U.S. laws and regulations, including anti-corruption laws, antitrust or competition laws, and data privacy laws, among others. Violations of these laws and regulations could result in fines and penalties, criminal sanctions against us or our employees, prohibitions on the conduct of our business and on our ability to offer our products and services in certain geographies, and significant harm to our business reputation. There can be no assurance that any individual employee, contractor, agent or other business partner will not violate these legal requirements or our policies to mitigate these risks. Additionally, the costs of complying with these laws (including the costs of investigations, auditing and monitoring) could also adversely affect our current or future business.

We expect that we may enter new international markets and withdraw from or reduce operations in others. The success of our international sales and operations will depend, in large part, on our ability to anticipate and effectively manage these risks. Our failure to manage any of these risks could harm our international operations, reduce our international sales, and could give rise to liabilities, costs or other business 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 on forecasts of customer demand. During fiscal 2014, we increased inventory levels for our 6500 Packet Optical Platform in order to reduce customer lead times and meet forecasted volumes. Our practice of buying inventory based on forecasted demand exposes us to the risk that our customers ultimately may not order the products we have forecast, or will purchase fewer products than forecast. As a result, we may purchase inventory in anticipation of sales that ultimately do not occur. 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. 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 certain products we have inventoried in favor of next-generation products with similar or increased functionality. 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. If we are required to write off or write down a significant amount of inventory, our results of operations for the applicable period would be materially adversely affected.

Our 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, 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 they simply seek to derive value from their ownership through royalties from patent licensing programs.

We could 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, could 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.

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 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 operating system, network management and control platforms and other products. As networks adopt open software control and virtualized network functions, we believe that we will be increasingly required to work with third party technology providers. As a result, we may be required to license certain software or technology from third parties, including competitors. Licenses for software or other technology may not be available or may not 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 may

result in our inability to continue to use such license, which may result in significant costs, harm our market opportunities and require us to obtain or develop a substitute technology.

As networks become more open and software programmable, we also expect that we and other communications networking solutions vendors will increasingly contribute to and use technology or open source software developed by standards settings bodies or other industry forums that seek to promote the integration of network layers and functions. The terms of such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products. This may increase our risks associated with our use of such software and may require us to seek licenses from third parties, to re-engineer our products or to discontinue the sale of such solutions. Difficulty obtaining and maintaining technology licenses with third parties may disrupt development of our products, increase our costs and adversely affect our business.

If our contract manufacturers do not perform as we expect, our business and results of operations may be adversely affected.

We rely on third-party contract manufacturers to perform the manufacturing of our products, and our future success will depend on our ability to manage these manufacturing resources and ensure sufficient volumes and quality of our products. There are a number of risks associated with our dependence on contract manufacturers, including:

- reduced control over delivery schedules and planning;
- reliance on the quality assurance procedures of third parties;
- potential uncertainty regarding manufacturing yields and costs;
- availability of manufacturing capability and capacity, particularly during periods of high demand;
- risks and uncertainties relating to the locations and geographies of our international contract manufacturing sites;
- limited warranties provided to us;
- potential misappropriation of our intellectual property; and
- potential manufacturing disruptions, including disruptions caused by geopolitical events or environmental factors affecting the locations and geographies of our international contract manufacturing sites.

These and other risks could impair our ability to fulfill orders, harm our sales and impact our reputation with customers. If our contract manufacturers are unable or unwilling to continue manufacturing our products or components of our products, or if our contract manufacturers discontinue operations, we would be required to identify and qualify alternative manufacturers, which could cause us to be unable to meet our supply requirements to our customers and result in the breach of our customer agreements. Qualifying a new contract manufacturer and commencing volume production are expensive and time-consuming, and if we are required to change or qualify a new contract manufacturer, we would likely lose sales revenue and damage our existing customer relationships.

Data security 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 on our network systems certain information that is confidential, proprietary or otherwise sensitive in nature. This information includes intellectual property, financial information and confidential business information relating to Ciena and our customers, suppliers and other business partners. We also produce networking equipment solutions and software used by network operators to ensure security and reliability in their management and transmission of data. Our customers, particularly those in regulated industries, are increasingly focused on the security features of our technology solutions, and maintaining the security of information sensitive to Ciena and our business partners 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 to networks or sensitive information. Our network systems and storage applications, and the technology solutions that we offer to end customers, 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 to immediately detect such incidents and the damage caused thereby. If an actual or perceived breach of network security occurs in our network or in the network of a business partner, the market perception of our products could be harmed. While we continually work to safeguard our products and internal network systems to mitigate these potential risks, there is no assurance that such actions will be sufficient to prevent cyber attacks or security breaches. Security incidents involving access or improper use our systems, networks or products could compromise confidential or otherwise protected information, destroy or corrupt data, or otherwise disrupt our operations. These security events could also negatively impact our reputation and our competitive position and could result in litigation with third parties, regulatory action, loss of business, potential liability and increased remediation costs, any of which could have a material adverse effect on our financial condition and results of operations.

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, as well as 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 service 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 we 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 could 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 customer payment capability and to 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.

Our business is dependent upon the proper functioning of our internal business processes and information systems, and modification or interruption of such systems or external factors 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 managing our business. Our business processes and information

systems must 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 have commenced a significant reengineering of our company-wide enterprise resource planning platform that will impact multiple locations, functions and processes. We are also currently pursuing initiatives to transform and optimize our business operations through the reengineering of certain other processes, investment in automation, and engagement of strategic partners or resources to assist with certain business functions. These changes will require a significant investment of capital and human resources and 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 disruption in connection with this transition. Even if we do not encounter these adverse effects or disruption in our business, the design and implementation of these new systems may be more costly than anticipated.

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.

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

At October 31, 2014, indebtedness on our outstanding convertible notes totaled approximately \$1.2 billion in aggregate principal, including the accretion of principal at maturity on our 4.0% convertible senior notes due in 2020 ("2020 Notes"). In the event that some or all of these notes are converted into common stock, the ownership interests of our existing stockholders will be diluted, and any sales of such shares in the public market following conversion may adversely affect the market price for our common stock. We are also a party to credit agreements relating to a \$200 million senior secured asset-based revolving credit facility and a \$250 million senior secured term loan. The agreements governing these credit facilities contain certain covenants that limit our ability to, among other things, incur additional debt, create liens and encumbrances, pay cash dividends, redeem or repurchase stock, enter into certain acquisition transactions or transactions with affiliates, repay certain indebtedness, make investments or dispose of assets. The agreements also include customary remedies, including the right of the lenders to take action with respect to the collateral securing the loans, that would apply should we default or otherwise be unable to satisfy our debt obligations.

Our indebtedness could have important negative consequences, including:

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

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

Significant volatility and uncertainty in the capital markets may limit our access to funding on favorable terms or at all.

The operation of our business requires significant capital. We have accessed the capital markets in the past and has successfully raised funds, including through the issuance of equity, convertible notes and other indebtedness, 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 or incur additional indebtedness in the future. If we raise additional funds through further issuance of equity or securities convertible into equity, or undertake certain transactions intended to address our existing indebtedness, our existing stockholders could suffer dilution in their percentage ownership of our company and our leverage and outstanding indebtedness

could increase. 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 on favorable terms or at all, 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 to our cash position and cash flows.

We have recently undertaken and expect to undertake in the future a number of significant facilities transitions affecting a number of our largest employee populations. The lease term for our “Lab 10” building on the Carling Campus in Ottawa, Canada will expire in fiscal 2018, and the lease term for our development facility in Gurgaon, India will expire in fiscal 2017. Both locations house sophisticated research and development lab equipment and significant headcount including key engineering personnel. We will be transitioning our operations in Ottawa to new facilities in contemplation of the expiration of the Lab 10 lease. Relocating 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 could 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. Competition is particularly intense in certain jurisdictions where we have research and development centers, including the Silicon Valley area of Northern California, and 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. In addition, none of our executive officers is bound by an employment agreement for any specific term. 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. 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. Due to our increased global presence, a larger percentage of our revenue, operating expense and assets and liabilities are 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 or assets and liabilities denominated in foreign currency. Such attempts to offset the impact of currency fluctuations are costly and no amount of hedging can be effective against all circumstances. Losses associated with these hedging instruments and the adverse effect of foreign currency exchange rate fluctuation may negatively affect our results of operations.

Strategic acquisitions and investments could disrupt our operations and 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 could dilute our current stockholders, or incur debt or assume indebtedness. These transactions involve numerous risks, including:

- significant acquisition and 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;
- difficulty managing customer transitions or entering into new markets;
- loss of key employees;
- ineffective internal controls over financial reporting;
- dependence on unfamiliar suppliers or manufacturers;
- assumption of or 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. The FCC is currently considering its "net neutrality" rulemaking and the application of its regulatory authority over broadband Internet services. These and other changes in regulatory requirements covering access to or carriage of traffic on the Internet in the United States or other countries could serve as a disincentive to certain wireline or wireless network operators, including certain of our customers, to invest in their network infrastructures or introduce new services. These changes could adversely affect the sale of our products and services. Similarly, 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, 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, or our 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, penalties or 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 previously imposed significant tariffs on certain communications equipment. 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, potential climate change and other social initiatives 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. The SEC has adopted disclosure requirements regarding the use of "conflict minerals" mined from

the Democratic Republic of Congo and adjoining countries (“DRC”) and procedures regarding a manufacturer's efforts to prevent the sourcing of such minerals from the DRC. Certain of these minerals are present in our products. SEC rules implementing these requirements may have the effect of reducing the pool of suppliers who can supply DRC “conflict free” components and parts, and we may not be able to obtain conflict free products or supplies in sufficient quantities for our operations. Because our supply chain is complex, we may face reputational challenges with our customers, stockholders and other stakeholders if we are unable to sufficiently verify the origins for the “conflict minerals” used in our products and cannot assert that our products are “conflict free”. Environmental or similar social initiatives 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, 2014, our balance sheet includes \$309.4 million in long-lived assets, which includes \$128.7 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. Certain ongoing initiatives, including a significant update of our company-wide enterprise resource planning platform that is underway, will necessitate modifications to our internal control systems, processes and related information systems. Similarly, other efforts to transform business processes, including our supply chain operations, or to transition certain functions to third party resources or providers, will require further changes to our control environment as we as we optimize our business and operations. Our expansion into new regions could pose further 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 2014, our closing stock price ranged from a high of \$26.20 per share to a low of \$14.16 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, or the expectations of the market generally, can cause significant swings in our stock price. Our stock price can also be affected by market conditions in our industry as well as announcements that we, our competitors, vendors or our customers may make. These may include announcements of financial results or changes in estimated financial results, technological innovations, the gain or loss of customers or key opportunities. Our common stock is also 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.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Overview . As of October 31, 2014 , 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 and our planned future relocation from this 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 an agreement dated November 3, 2011, with W2007 RDG Realty, L.L.C. relating to a 15-year lease of office space for its corporate headquarters in Hanover, Maryland, consisting of an agreed-upon rentable area of approximately 154,100 square feet.

Ottawa Lease and Planned Relocation. 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. This facility consists of a rentable area of 265,000 square feet. This lease will terminate on December 31, 2017. In contemplation of the lease termination, on October 23, 2014, Ciena Canada, Inc. entered into a Lease Agreement (the “Lease”) with Innovation Blvd. II Limited (“Landlord”), to lease the office building located at 5050 Innovation Drive, Ottawa, Canada (the “Premises”), consisting of an agreed-upon rentable area of 170,582 square feet. The Premises is expected to be part of a future campus that will replace the “Lab 10” building as Ciena's Ottawa research and development center. The commencement date for the Lease will be the earlier of January 1, 2015, or such date on which Ciena occupies any material portion of the Premises and begins conducting business therein. Subject to any earlier termination under the terms and conditions of the Lease, the term of the Lease shall continue for a period of 18 years from the commencement date. Ciena has the option to renew the Lease for an additional ten-year period thereafter. Ciena also has the right to terminate the Lease at the end of the thirteenth year without penalty upon 18 months prior written notice. In addition to leasing the Premises, Ciena is currently in negotiations with the Landlord for the development and lease of two additional buildings that will be built adjacent to the Premises, which are expected to consist of an aggregate agreed-upon rentable area of approximately 250,000 square feet. The Lease also provides Ciena a right of first offer to lease additional space in the building adjacent to the Premises located at 4000 Innovation Drive, for so long as Landlord owns the building and subject to any existing rights of the current tenant. Our Lab 10 facility houses sophisticated research and development lab equipment and significant headcount including key engineering personnel. The development of our new facilities and the transition of our operations in Ottawa will require significant effort, time and cost in advance of the expiration of the Lab 10 lease.

For additional information regarding our lease obligations, see Note 22 to the Consolidated Financial Statements in Item 8 of Part II of this annual report.

Item 3. Legal Proceedings

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, to which 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 matter 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

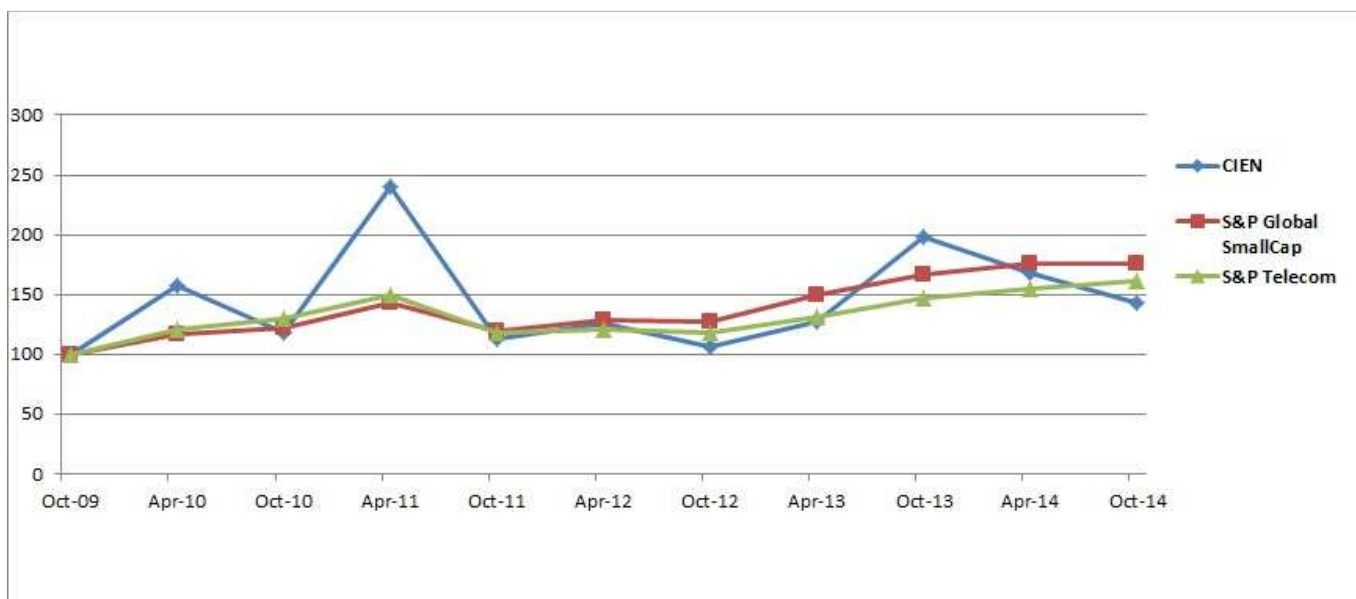
(a) During fiscal 2013, our common stock was traded on the NASDAQ Global Select Market. On December 23, 2013, we transferred the listing of our common stock from the NASDAQ Global Select Market to the New York Stock Exchange. Ciena common stock trades under the stock symbol “CIEN.”

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

	High	Low
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
Fiscal Year 2014		
First Quarter ended January 31	\$ 24.37	\$ 20.93
Second Quarter ended April 30	\$ 27.16	\$ 18.88
Third Quarter ended July 31	\$ 22.94	\$ 18.00
Fourth Quarter ended October 31	\$ 20.98	\$ 13.77

As of December 12, 2014, there were approximately 760 holders of record of our common stock and 106,985,271 shares of common stock outstanding. We have never paid cash dividends on our capital stock. We currently 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 S&P Telecom Select Index and the S&P Global SmallCap Index from October 31, 2009 to October 31, 2014. The S&P Telecom Select Industry Index comprises stocks in the S&P Total Market Index that are classified in the Global Industry Classification Standard as alternative carriers, communications equipment, integrated telecom services, and wireless telecom services sub-industries. The S&P Global SmallCap Index comprises the stocks representing the lowest 15% of float-adjusted market cap in each developed and emerging country. 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 S&P Telecom Select Index and the S&P Global SmallCap Index, respectively, on October 31, 2009 with all dividends reinvested at month-end.

(b) Not applicable.

(c) Not applicable.

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 2010, 2011, 2013 and 2014 consisted of 52 weeks, and fiscal 2012 consisted of 53 weeks.

	Year Ended October 31,				
	(in thousands)				
	2010	2011	2012	2013	2014
Cash and cash equivalents	\$ 688,687	\$ 541,896	\$ 642,444	\$ 346,487	\$ 586,720
Short-term investments	\$ —	\$ —	\$ 50,057	\$ 124,979	\$ 140,205
Long-term investments	\$ —	\$ 50,264	\$ —	\$ 15,031	\$ 50,057
Total assets	\$ 2,118,093	\$ 1,951,418	\$ 1,881,143	\$ 1,802,770	\$ 2,072,632
Short-term debt	\$ —	\$ —	\$ 216,210	\$ —	\$ 190,063
Long-term debt	\$ 1,442,705	\$ 1,442,364	\$ 1,225,806	\$ 1,212,019	\$ 1,274,791
Total liabilities	\$ 1,958,800	\$ 1,937,545	\$ 1,970,115	\$ 1,885,447	\$ 2,142,247
Stockholders’ equity (deficit)	\$ 159,293	\$ 13,873	\$ (88,972)	\$ (82,677)	\$ (69,615)

Statement of Operations Data:

	Year Ended October 31, (in thousands, except per share data)				
	2010	2011	2012	2013	2014
Revenue	\$ 1,236,636	\$ 1,741,970	\$ 1,833,923	\$ 2,082,546	\$ 2,288,289
Cost of goods sold	739,135	1,032,824	1,109,699	1,217,371	1,339,937
Gross profit	497,501	709,146	724,224	865,175	948,352
Operating expenses:					
Research and development	327,626	379,862	364,179	383,408	401,180
Selling and marketing	193,515	251,990	266,338	304,170	328,325
General and administrative	102,692	126,242	114,002	122,432	126,824
Acquisition and integration costs	101,379	42,088	—	—	—
Amortization of intangible assets	99,401	69,665	51,697	49,771	45,970
Restructuring costs	8,514	5,781	7,854	7,169	349
Change in fair value of contingent consideration	(13,807)	(3,289)	—	—	—
Total operating expenses	819,320	872,339	804,070	866,950	902,648
Gain (loss) from operations	(321,819)	(163,193)	(79,846)	(1,775)	45,704
Interest and other income (loss), net	3,917	6,022	(15,200)	(5,744)	(25,262)
Interest expense	(18,619)	(37,926)	(39,653)	(44,042)	(47,115)
Gain on cost method investments	—	7,249	—	—	—
Gain (loss) on extinguishment of debt	4,948	—	—	(28,630)	—
Loss before income taxes	(331,573)	(187,848)	(134,699)	(80,191)	(26,673)
Provision for income taxes	1,941	7,673	9,322	5,240	13,964
Net loss	\$ (333,514)	\$ (195,521)	\$ (144,021)	\$ (85,431)	\$ (40,637)
Basic net loss per common share	\$ (3.58)	\$ (2.04)	\$ (1.45)	\$ (0.83)	\$ (0.38)
Diluted net loss per potential common share	\$ (3.58)	\$ (2.04)	\$ (1.45)	\$ (0.83)	\$ (0.38)
Weighted average basic common shares outstanding	93,103	95,854	99,341	102,350	105,783
Weighted average dilutive potential common shares outstanding	93,103	95,854	99,341	102,350	105,783

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

This report contains statements that discuss future events or expectations, projections of results of operations or financial condition, changes in the markets for our products and services, or other "forward-looking" information. Our "forward-looking" information is based on various factors and was derived using numerous assumptions. In some cases, you can identify these "forward-looking statements" by words like "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "intends," "potential" or "continue" or the negative of those words and other comparable words. You should be aware that these statements only reflect our current predictions and beliefs. These statements are subject to known and unknown risks, uncertainties and other factors, and actual events or results may differ materially. Important factors that could cause our actual results to be materially different from the forward-looking statements are disclosed throughout this report, particularly under the heading "Risk Factors" in Item 1A of Part I of this annual report. You should review these risk factors for a more complete understanding of the risks associated with an investment in our securities. We undertake no obligation to revise or update any forward-looking statements. The following discussion and analysis should be read in conjunction with our "Selected Consolidated Financial Data" and consolidated financial statements and notes thereto included elsewhere in this annual report.

Overview

We are a network specialist focused on communications networking solutions that enable converged, next-generation architectures, optimized to create and deliver the broad array of high-bandwidth 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. These solutions enable network operators to adopt software-programmable network infrastructures that offer the on-demand experience required by end users of services and applications. At the same time, these solutions yield business and operational value for network operators.

Our Converged Packet Optical, Packet Networking, Optical Transport and Software products are used, individually or as part of an integrated solution, in networks operated by communications service providers, cable operators, Web-scale providers, governments, enterprises, research and education institutions and other network operators across the globe. Our products allow network operators to scale capacity, increase transmission speeds, allocate network traffic and adapt to changing end-user demands through rapid service creation and delivery. Our solutions also include network management and control software and network-level software applications that facilitate automation and efficient service delivery. To complement our hardware and software solutions, 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.

The rapid proliferation of communications services and devices, together with increased mobility and growth in cloud-based services, have fundamentally affected the demands placed upon communications networks and how they are designed. Network operators also face a rapidly changing business environment that includes a shifting competitive landscape and challenges to existing business models. Our OPⁿ Architecture, and the increased network scalability, flexibility and programmability that it enables, is designed to meet these challenges. Our OPⁿ network approach allows for network-level software applications to control and configure the network dynamically, while flexible interfaces integrate computing, storage and network resources. This approach enables highly configurable infrastructures that can meet the "on-demand" requirements of end-users and the changing services they rely upon. By enhancing software programmability and control, enabling network functions virtually, and reducing required network elements, our OPⁿ approach optimizes network infrastructures to connect content data centers, and users to such content. At the same time, our approach creates business and operational value for our customers by increasing scale at reduced cost and facilitating rapid introduction of new, revenue-generating service offerings. Our OPⁿ Architecture, which underpins our solutions offering and guides our research and development strategy, is described more fully in the "Strategy" section of the description of our business in Item 1 of Part 1 of this annual report.

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

Market Opportunity

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, technology convergence, increased mobility, and evolving cloud-based service

offerings and end-user demands. These conditions have created market opportunities and challenges that have impacted how networks are designed, as well as the competitive landscapes of network operators and the vendors that support them. 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 the costs of their network and to ensure a profitable business model. These dynamics are driving technology convergence of network features, functions and layers, virtualization of certain network functions, and the adoption of software-based network control and programmability. We believe that these dynamics, and the need to adapt to changing business conditions, are creating an environment that will cause network operators to adopt infrastructures that are more open, programmable and automated. We also believe that these conditions will require vendors and network operators to leverage an open ecosystem of virtualized resources provided by a variety of third parties and will drive increased openness and interoperability of network infrastructures.

During fiscal 2014, we saw certain service provider customers increase efforts to constrain capital expenditure budgets, which adversely impacted certain segments of our market, including in the U.S. Notwithstanding these market dynamics, our strategy of focusing on certain higher growth segments of the network infrastructure market, combined with our efforts to diversify our customer base to include additional customer segments, such as Web-scale providers, and additional service providers in geographies including Brazil and India, enabled us to continue to grow revenue in fiscal 2014. Our corporate strategy to capitalize on these market dynamics, promote operational efficiency and drive profitable growth of our business includes the initiatives set forth in the "Strategy" section of the description of our business in Item 1 of Part 1 of this annual report.

Competitive Landscape

We continue to encounter a highly competitive and fragmented marketplace. Our sales of Converged Packet Optical solutions face an intense competitive environment as we and our competitors introduce new, high-capacity, high-speed network solutions and seek adoption of these solutions and our network architectural approach. Our sales of Packet Networking solutions, including our 8700 Packetwave Platform, also face a highly competitive marketplace with additional competitors, including traditional IP router vendors. We expect the current competitive landscape to remain challenging and dynamic. As networking technologies become more software-driven, and network features and layers continue to converge, our competitive landscape continues to broaden beyond traditional competitors. As a result, we are competing with, and expect to compete increasingly with, additional vendors focused on IP routing, information technology and software.

Within these competitive dynamics, maintaining incumbency with key customers domestically and abroad, and securing new opportunities with network operators often requires that we agree to aggressive pricing, significant commercial concessions or other unfavorable commercial terms. These terms have previously and may in the future adversely affect our quarterly results of operations and contribute to fluctuations in our results. These terms can also elongate our revenue recognition or cash collection cycles, add start-up costs to initial sales or deployment of our solutions, require financial commitments or performance bonds, and include onerous contractual commitments that place a disproportionate allocation of risk upon us.

Term Loan and Asset-Based Credit Facilities

During fiscal 2014, we entered into a credit agreement that provides for senior secured term loans in an aggregate principal amount of \$250 million (the "Term Loan"). We expect to use the approximately \$246 million in net proceeds to repay, in whole or part, the outstanding principal amount owing under our 4.00% senior convertible notes due March 15, 2015 ("2015 Notes") in the event the holders thereof do not elect to convert such notes into common stock prior to maturity. In the event the holders of such notes elect to convert their notes into common stock upon or prior to maturity, we may elect to repay the Term Loan, in whole or in part, or may utilize the net proceeds for other general corporate purposes, including the repayment or refinancing of other existing indebtedness. See Note 14 to our Consolidated Financial Statements included in Item 8 of Part II of this report for a summary of the material terms and conditions of the Term Loan and the related security documents.

During fiscal 2014, we also amended the terms of our existing senior secured asset-based revolving credit facility to, among other things, increase the total commitment under our ABL Credit Facility from \$150 million to \$200 million and to extend the maturity date from August 13, 2015 to December 31, 2016. See Note 15 to our Consolidated Financial Statements included in Item 8 of Part II of this report for a summary of the material terms and conditions of the amendment to this credit facility and the related security documents.

Financial Results for Fourth Quarter of Fiscal 2014

Revenue for the fourth quarter of fiscal 2014 was \$591.0 million , representing a sequential decrease of 2.1% from \$603.6 million in the third quarter of fiscal 2014 . Revenue-related details reflecting sequential changes from the third quarter of fiscal 2014 include the following:

- Product revenue for the fourth quarter of fiscal 2014 decreased by \$19.7 million , primarily reflecting decreases of \$13.0 million in Packet Networking , \$4.5 million in Optical Transport and \$3.3 million in software in Software and Services . These decreases were partially offset by an increase of \$1.2 million in Converged Packet Optical . Product revenue for Converged Packet Optical and Packet Networking were adversely impacted by a commercial arrangement with AT&T entered into in the fourth quarter of fiscal 2014 relating to our participation in AT&T's Domain 2.0 supplier program. The Domain 2.0 initiative is the next generation of AT&T's Supplier Domain Program, intended to enable AT&T to transition more quickly to next-generation, cloud-based architectures that embrace NFV and SDN, and accelerate their time to market with new products and services.
- Service revenue for the fourth quarter of fiscal 2014 increased by \$7.1 million .
- Revenue from the United States for the fourth quarter of fiscal 2014 was \$308.5 million , a decrease from \$368.1 million in the third quarter of fiscal 2014 .
- International revenue for the fourth quarter of fiscal 2014 was \$282.5 million , an increase from \$235.5 million in the third quarter of fiscal 2014 .
- As a percentage of revenue, international revenue was 47.8% during the fourth quarter of fiscal 2014 , an increase from 39.0% during the third quarter of fiscal 2014 .
- For the fourth quarter of fiscal 2014 , one customer accounted for 12.2% of total revenue. This compared to one customer that accounted for 21.6% of total revenue in the third quarter of fiscal 2014 .

Gross margin for the fourth quarter of fiscal 2014 was 37.4% , a decrease from 43.7% in the third quarter of fiscal 2014 . Gross margin for the fourth quarter of fiscal 2014 was adversely impacted by our commercial arrangement with AT&T, as described above, and revenue from multiple large international projects that are in the early stage of network deployment with higher related start-up costs that include a large concentration of lower margin "common" equipment and lower margin installation services.

Operating expense was \$222.7 million for the fourth quarter of fiscal 2014 , a decrease from \$227.0 million in the third quarter of fiscal 2014 . Fourth quarter operating expense reflects a decrease of \$7.7 million in general and administrative expense. This decrease was partially offset by increases of \$2.5 million in selling and marketing expense and \$0.8 million in research and development expense.

Our lower revenue and gross margin resulted in a loss from operations of \$1.8 million for the fourth quarter of fiscal 2014 , as compared to \$37.0 million of income from operations during the third quarter of fiscal 2014 . Due primarily to the fluctuation in foreign currency exchange rates, net of hedging, we incurred losses in interest and other income, net of \$10.7 million and \$5.8 million during the fourth quarter of fiscal 2014 and the third quarter of fiscal 2014 , respectively. Our net loss for the fourth quarter of fiscal 2014 was \$30.7 million , or \$0.29 per diluted common share. This compares to a net income of \$16.2 million or \$0.15 per diluted common share, for the third quarter of fiscal 2014 .

We generated \$73.8 million of cash from operations during the fourth quarter of fiscal 2014 , consisting of \$23.5 million provided by net losses adjusted for non-cash charges and \$50.3 million provided by changes in working capital. This compares with \$51.1 million in cash generated from operations during the third quarter of fiscal 2014 , consisting of \$80.9 million provided by net income adjusted for non-cash charges, offset by a \$29.8 million use of cash related to changes in working capital.

As of October 31, 2014 , we had \$586.7 million in cash and cash equivalents, \$140.2 million of short-term investments in U.S. treasury securities and commercial paper and \$50.1 million of long-term investments in U.S. treasury securities. This compares to \$532.9 million in cash and cash equivalents, \$120.3 million of short-term investments in U.S. treasury securities and commercial paper, and \$65.0 million of long-term investments in U.S. treasury securities at July 31, 2014 and \$346.5 million in cash and cash equivalents, \$125.0 million of short-term investments in U.S. treasury securities and commercial paper, and \$15.0 million of long-term investments in U.S. treasury securities at October 31, 2013 .

As of October 31, 2014 , we had 5,161 employees, an increase from 5,136 as of July 31, 2014 and an increase from 4,754 and 4,481 at October 31, 2013 and 2012 , respectively.

Consolidated Results of Operations**Operating Segments**

Ciena's internal organizational structure and the management of its business are grouped into the following operating segments each of which is more fully described in the "Products and Services" section of the description of our business in Item 1 of Part 1 of this annual report:

- *Converged Packet Optical* — includes the 6500 Packet-Optical Platform and the 5430 Reconfigurable Switching System, which feature Ciena's WaveLogic coherent optical processors. Products also include Ciena's family of CoreDirector® Multiservice Optical Switches and the OTN configuration for the 5410 Reconfigurable Switching System. This segment also includes sales of operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Packet Networking* — includes Ciena's 3000 family of service delivery switches and service aggregation switches and the 5000 family of service aggregation switches. This segment also includes Ciena's 8700 Packetwave Platform and Ciena's Ethernet packet configuration for the 5410 Service Aggregation Switch. This segment also includes sales of operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Optical Transport* — includes the 4200 Advanced Services Platform, Corestream® Agility Optical Transport System, 5100/5200 Advanced Services Platform, Common Photonic Layer (CPL) and 6100 Multiservice Optical Platform. This segment includes sales from 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. This segment also includes operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Software and Services* — includes Ciena's Agility software portfolio, which includes a SDN multilayer WAN controller, NFV platform, and network level software applications for enabling on-demand, high-bandwidth WAN services delivered in an open network ecosystem. This segment also includes the OneControl Unified Management System, ON-Center® Network & Service Management Suite, Ethernet Services Manager and Optical Suite Release. This segment includes a broad range of services for consulting and network design, installation and deployment, maintenance support and training activities. Except for revenue from the software portion of this segment, which is included in product revenue, revenue from this segment is included in services revenue on the Consolidated Statement of Operations.

Fiscal 2013 compared to Fiscal 2014**Revenue**

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

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Revenue:						
Converged Packet Optical	\$ 1,187,231	57.0	\$ 1,455,501	63.6	\$ 268,270	22.6
Packet Networking	222,898	10.7	244,116	10.7	21,218	9.5
Optical Transport	233,821	11.2	127,215	5.6	(106,606)	(45.6)
Software and Services	438,596	21.1	461,457	20.1	22,861	5.2
Consolidated revenue	<u>\$ 2,082,546</u>	<u>100.0</u>	<u>\$ 2,288,289</u>	<u>100.0</u>	<u>\$ 205,743</u>	<u>9.9</u>

* Denotes % of total revenue

** Denotes % change from 2013 to 2014

- **Converged Packet Optical revenue** increased significantly, reflecting a \$258.2 million increase in sales of our 6500 Packet-Optical Platform, largely driven by service provider and Web-scale provider demand for high-capacity, optical transport for coherent 40G and 100G network infrastructures. In addition, sales of our 5430 reconfigurable switching system and the OTN configuration for the 5410 Reconfigurable Switching System increased by \$25.6 million and \$6.0 million respectively. These increases were partially offset by a \$21.5 million decrease in sales of our CoreDirector® Multiservice Optical Switches. The strong performance of this segment, particularly as compared to the expected declines in Optical Transport segment revenue, reflects the preference of network operators to adopt next-generation architectures that enable the convergence of high-capacity, coherent optical transport with integrated OTN switching and control plane functionality.
- **Packet Networking revenue** increased, reflecting a \$30.4 million increase in sales of our 3000 and 5000 families of service delivery and aggregation switches. This increase was largely driven by the expansion of Ethernet business services by AT&T, our largest service provider customer. Segment revenue also benefited from \$1.7 million in initial sales of our 8700 Packetwave Platform. These increases were partially offset by decreases of \$5.3 million in sales of our 5410 Service Aggregation Switch and \$5.1 million in sales of our older, stand-alone broadband products.
- **Optical Transport revenue** decreased, reflecting sales decreases of \$46.6 million in other stand-alone transport products, \$36.2 million of 5100/5200 Advanced Services Platform and \$23.8 million in our 4200 Advanced Services Platform. Revenue for our Optical Transport segment, which currently consists principally of stand-alone WDM and SONET/SDH-based transport platforms, has experienced meaningful declines in annual revenue in recent years, reflecting network operators' transition toward next-generation converged network architectures as described above.
- **Software and Services revenue** increased, reflecting increases of \$10.4 million in maintenance and support services revenue, \$8.4 million in installation and deployment services revenue, \$2.8 million in software sales and \$1.2 million in networking transformation consulting revenue.

Revenue from sales to customers outside of the United States is reflected as International in the geographic distribution of revenue below. The table below (in thousands, except percentage data) sets forth the changes in geographic distribution of revenue for the periods indicated:

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
United States	\$ 1,217,462	58.5	\$ 1,317,981	57.6	\$ 100,519	8.3
International	865,084	41.5	970,308	42.4	105,224	12.2
Total	\$ 2,082,546	100.0	\$ 2,288,289	100.0	\$ 205,743	9.9

* Denotes % of total revenue

** Denotes % change from 2013 to 2014

- **United States revenue** reflects increases of \$123.8 million in Converged Packet Optical sales, \$20.3 million in Packet Networking sales and \$20.7 million in Services and Software sales. In particular, during fiscal 2014, we benefited from the diversification of our customer base, including increased sales of our Converged Packet Optical products to Web-scale providers and data center operators, as these customers added capacity and adopted next-generation network architectures better able to handle multi-service traffic growth. We also increased sales of our Packet Networking and Converged Packet Optical products to AT&T in support of its Ethernet business services and increased demand for high-capacity, optical transport. These increases were partially offset by a \$64.3 million decrease in Optical Transport sales as network operators' transition toward next-generation converged network architectures as described above.
- **International revenue** reflects increases of \$144.5 million in Converged Packet Optical sales and \$2.2 million in Software and Services revenue. We benefited from the diversification of our customer base including increased sales of our Converged Packet Optical products to service provider customers, submarine consortia and cable and

multiservice operators. These increases were partially offset by decreases of \$42.3 million in Optical Transport sales as network operators' transition toward next-generation converged network architectures as described above.

While we have benefited from the diversification of our business and customer base, our largest ten customers contributed 59.4% of fiscal 2013 revenue and 56.4% of fiscal 2014 revenue. A sizable portion of our revenue continues to come from sales to service provider customers. As a result, our financial results are significantly affected by and can fluctuate depending upon spending levels of our service provider customers, their end-user demand and the business opportunities and challenges they encounter. Sales to AT&T were \$373.6 million, or 17.9% of total revenue, in fiscal 2013 and \$423.5 million, or 18.5% of total revenue, in fiscal 2014. We did not have any other customers accounting for greater than 10% of our revenue in fiscal 2013 or fiscal 2014.

Cost of Goods Sold and Gross Profit

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

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

Our gross profit as a percentage of revenue, or "gross margin," is susceptible to fluctuations due to a number of factors. In any given period, gross margin can vary significantly depending upon the mix and concentration of revenue by segment, product line within a particular segment, geography and customers. Gross margin can also be affected by our concentration of lower margin "common" equipment sales and higher margin channel cards, the mix of lower margin installation services within our service revenue, our introduction of new products, and changes in expense for excess and obsolete inventory and warranty obligations. Gross margin can also be adversely affected by the level of pricing pressure and competition that we encounter in the market. We expect that gross margins will be subject to fluctuation based on our level of success in driving product cost reductions relative to the market-based price erosion we encounter. In an effort to retain or secure customers, enter new markets or capture market share, we may agree to pricing or other unfavorable commercial terms that result in lower or negative gross margins on a particular order or group of orders. Gross margin can also be affected as a result of our degree of success in rationalizing our supply chain and consolidating third party contract manufacturers and distribution sites as part of our effort to optimize our operations. These market dynamics and factors may adversely affect our gross margin and results of operations in certain periods.

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

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

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Total revenue	\$ 2,082,546	100.0	\$ 2,288,289	100.0	\$ 205,743	9.9
Total cost of goods sold	1,217,371	58.5	1,339,937	58.6	122,566	10.1
Gross profit	\$ 865,175	41.5	\$ 948,352	41.4	\$ 83,177	9.6

* Denotes % of total revenue

** Denotes % change from 2013 to 2014

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Product revenue	\$ 1,680,125	100.0	\$ 1,865,826	100.0	\$ 185,701	11.1
Product cost of goods sold	967,510	57.6	1,083,022	58.0	115,512	11.9
Product gross profit	\$ 712,615	42.4	\$ 782,804	42.0	\$ 70,189	9.8

* Denotes % of product revenue

** Denotes % change from 2013 to 2014

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Service revenue	\$ 402,421	100.0	\$ 422,463	100.0	\$ 20,042	5.0
Service cost of goods sold	249,861	62.1	256,915	60.8	7,054	2.8
Service gross profit	\$ 152,560	37.9	\$ 165,548	39.2	\$ 12,988	8.5

* Denotes % of service revenue

** Denotes % change from 2013 to 2014

- **Gross profit as a percentage of revenue** remained relatively unchanged.
- **Gross profit on products as a percentage of product revenue** decreased slightly, due to lower margins on Packet Networking and Optical Transport products. The decline was largely offset by improved mix of higher-margin packet platforms with software content within our Converged Packet Optical segment, and greater leverage from efforts to streamline and optimize our supply chain activities.
- **Gross profit on services as a percentage of services revenue** increased primarily due to increased maintenance and consulting services revenues and increased margin due to improved efficiencies for managed spares projects.

Operating Expense

We expect operating expense to increase slightly in fiscal 2015 from the level reported for fiscal 2014 to support the growth of our business, to fund our research and development initiatives and to provide for investments in the re-engineering of company-wide enterprise resource planning platforms. Operating expense consists of the component elements described below.

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

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

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

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

Restructuring costs primarily reflect actions Ciena has taken to better align its workforce, facilities and operating costs with perceived market opportunities, business strategies and changes in market and business conditions.

Table of Contents

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

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Research and development	\$ 383,408	18.4	\$ 401,180	17.5	\$ 17,772	4.6
Selling and marketing	304,170	14.6	328,325	14.3	24,155	7.9
General and administrative	122,432	5.9	126,824	5.5	4,392	3.6
Amortization of intangible assets	49,771	2.4	45,970	2.0	(3,801)	(7.6)
Restructuring costs	7,169	0.3	349	—	(6,820)	(95.1)
Total operating expenses	\$ 866,950	41.6	\$ 902,648	39.3	\$ 35,698	4.1

* Denotes % of total revenue

** Denotes % change from 2013 to 2014

- **Research and development expense** benefited by \$15.4 million as a result of foreign exchange rates, primarily due to strengthening of the U.S. dollar in relation to the Canadian Dollar. The \$17.8 million increase primarily reflects increases of \$8.1 million in professional services expense, \$6.9 million in employee compensation and related costs, \$5.3 million in prototype expense, partially offset by a decrease of \$2.6 million in technology and related costs.
- **Selling and marketing expense** benefited by \$1.9 million as a result of foreign exchange rates, primarily due to strengthening of the U.S. dollar in relation to the Canadian Dollar. The \$24.2 million increase primarily reflects increases of \$20.6 million in employee compensation and related costs, \$3.3 million of travel and related costs and \$1.2 million in facilities and information technology costs. These increases were partially offset by a decrease of \$1.4 million in customer demonstration equipment.
- **General and administrative expense** increased by \$4.4 million, primarily reflecting an increase in legal fees and settlements and consulting services.
- **Amortization of intangible assets** decreased due to certain intangible assets having reached the end of their economic lives.
- **Restructuring costs** primarily reflect certain severance and related expense associated with headcount reductions and restructuring activities to align our workforce and resources with market opportunities and research and development initiatives. Restructuring costs for fiscal 2013 also include the consolidation of certain facilities located within Maryland associated with the transition of our headquarters facility.

Other items

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

	Fiscal Year				Increase (decrease)	%**
	2013	%*	2014	%*		
Interest and other income (loss), net	\$ (5,744)	(0.3)	\$ (25,262)	(1.1)	\$ (19,518)	(339.8)
Interest expense	\$ 44,042	2.1	\$ 47,115	2.1	\$ 3,073	7.0
Loss on debt extinguishment	\$ (28,630)	(1.4)	\$ —	—	\$ 28,630	(100.0)
Provision for income taxes	\$ 5,240	0.3	\$ 13,964	0.6	\$ 8,724	166.5

* Denotes % of total revenue

** Denotes % change from 2013 to 2014

- **Interest and other income (loss), net** reflects a \$5.7 million non-cash loss related to the change in fair value of the embedded redemption feature associated with our 2015 Notes and a \$13.5 million increase in losses related to foreign

exchange rates on assets and liabilities denominated in a currency other than the relevant functional currency, net of hedging activity.

- **Interest expense** increased primarily due to the Term Loan that was entered into in fiscal 2014, as described in "Overview" above.
- **Loss on extinguishment of debt** for fiscal 2013 reflects a non-cash loss of \$28.6 million relating to the exchange transactions during the first quarter of fiscal 2013. Upon issuance, the 4.0% convertible senior notes due December 15, 2020 (the "2020 Notes") were recorded at a fair value of \$213.6 million. The exchange transactions resulted in the retirement of outstanding 2015 Notes with a carrying value of \$187.9 million and the write-off of unamortized debt issuance costs of \$2.3 million and \$0.6 million relating to the redemption feature on the 2015 Notes, which was accounted for as a separate embedded derivative.
- **Provision for income taxes** increased primarily due to foreign and state tax expenses.

Fiscal 2012 compared to Fiscal 2013

Revenue

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

	Fiscal Year					
	2012	%*	2013	%*	Increase (decrease)	%**
Revenue:						
Converged Packet Optical	\$ 951,245	51.9	\$ 1,187,231	57.0	\$ 235,986	24.8
Packet Networking	128,982	7.0	222,898	10.7	93,916	72.8
Optical Transport	353,620	19.3	233,821	11.2	(119,799)	(33.9)
Software and Services	400,076	21.8	438,596	21.1	38,520	9.6
Consolidated revenue	<u>\$ 1,833,923</u>	<u>100.0</u>	<u>\$ 2,082,546</u>	<u>100.0</u>	<u>\$ 248,623</u>	<u>13.6</u>

* Denotes % of total revenue

** Denotes % change from 2012 to 2013

- **Converged Packet Optical revenue** increased significantly, reflecting a \$176.7 million increase in sales of our 6500 Packet-Optical Platform, largely driven by service provider demand for high-capacity, optical transport for coherent 40G and 100G network infrastructures. In addition, sales of our 5430 reconfigurable switching system and the OTN configuration for the 5410 Reconfigurable Switching System increased by \$71.0 million and \$10.3 million respectively. These increases were partially offset by a \$22.0 million decrease in sales of our CoreDirector® Multiservice Optical Switches. The strong performance of this segment, particularly as compared to the expected annual revenue declines in Optical Transport segment revenue, reflects the preference of network operators to adopt next-generation architectures that enable the convergence of high-capacity, coherent optical transport with integrated OTN switching and control plane functionality.
- **Packet Networking revenue** increased, reflecting a \$101.0 million increase in sales of our 3000 and 5000 families of service delivery and aggregation switches. This increase was slightly offset by a \$4.9 million decrease in sales of our 5410 Service Aggregation Switch and a \$2.7 million decrease in sales of our older stand-alone broadband products. Segment revenue benefited from the expansion of Ethernet business services by our North American service provider customers and sales of service delivery and aggregation products in support of their related network initiatives.
- **Optical Transport revenue** decreased, reflecting sales decreases of \$55.0 million in our 4200 Advanced Services Platform, \$42.6 million in other stand-alone transport products and \$22.1 million in our 5100/5200 Advanced Services Platform. Revenue for our Optical Transport segment, which currently consists principally of stand-alone WDM and SONET/SDH-based transport platforms, has experienced meaningful declines in annual revenue in recent years, reflecting network operators' transition toward next-generation network architectures as described above.
- **Software and Services revenue** increased, reflecting sales increases of \$15.0 million in software, \$14.2 million in installation and deployment, \$7.6 million in maintenance and support services and \$1.7 million in network transformation consulting services.

Table of Contents

Revenue from sales to customers outside of the United States is reflected as International in the geographic distribution of revenue below. The table below (in thousands, except percentage data) sets forth the changes in geographic distribution of revenue for the periods indicated:

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
United States	\$ 972,576	53.0	\$ 1,217,462	58.5	\$ 244,886	25.2
International	861,347	47.0	865,084	41.5	3,737	0.4
Total	\$ 1,833,923	100.0	\$ 2,082,546	100.0	\$ 248,623	13.6

* Denotes % of total revenue

** Denotes % change from 2012 to 2013

- **United States revenue** reflects increases of \$152.0 million in Converged Packet Optical sales, \$95.5 million in Packet Networking sales, and \$28.2 million in Software and Services revenue. These increases were partially offset by a \$30.9 million decrease in Optical Transport sales. Increased revenues reflect early adoption by network operators in the United States of converged network architectures that align well with our OPⁿ Architecture and solutions offering.
- **International revenue** reflects increases of \$84.0 million in Converged Packet Optical sales and \$10.3 million increase in Software and Services revenue. These increases were partially offset by decreases of \$88.9 million in Optical Transport sales and \$1.6 million in Packet Networking sales.

Cost of Goods Sold and Gross Profit

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

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
Total revenue	\$ 1,833,923	100.0	\$ 2,082,546	100.0	\$ 248,623	13.6
Total cost of goods sold	1,109,699	60.5	1,217,371	58.5	107,672	9.7
Gross profit	\$ 724,224	39.5	\$ 865,175	41.5	\$ 140,951	19.5

* Denotes % of total revenue

** Denotes % change from 2012 to 2013

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
Product revenue	\$ 1,454,991	100.0	\$ 1,680,125	100.0	\$ 225,134	15.5
Product cost of goods sold	868,805	59.7	967,510	57.6	98,705	11.4
Product gross profit	\$ 586,186	40.3	\$ 712,615	42.4	\$ 126,429	21.6

* Denotes % of product revenue

** Denotes % change from 2012 to 2013

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
Service revenue	\$ 378,932	100.0	\$ 402,421	100.0	\$ 23,489	6.2
Service cost of goods sold	240,894	63.6	249,861	62.1	8,967	3.7
Service gross profit	<u>\$ 138,038</u>	<u>36.4</u>	<u>\$ 152,560</u>	<u>37.9</u>	<u>\$ 14,522</u>	<u>10.5</u>

* Denotes % of service revenue

** Denotes % change from 2012 to 2013

- **Gross profit as a percentage of revenue** increased as a result of the factors described below.
- **Gross profit on products as a percentage of product revenue** increased primarily due to improved mix of higher-margin packet platforms with software content, including within our Packet Networking and Converged Packet Optical segments, higher sales of integrated network service management software, lower warranty costs, and greater leverage from efforts to streamline and optimize our supply chain activities.
- **Gross profit on services as a percentage of services revenue** increased primarily due to improved margins on installation and deployment services due to improved operational efficiencies, and increased consulting service revenue from our Network Transformation Solutions offering.

Operating expense

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

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
Research and development	\$ 364,179	19.9	\$ 383,408	18.4	\$ 19,229	5.3
Selling and marketing	266,338	14.5	304,170	14.6	37,832	14.2
General and administrative	114,002	6.2	122,432	5.9	8,430	7.4
Amortization of intangible assets	51,697	2.8	49,771	2.4	(1,926)	(3.7)
Restructuring costs	7,854	0.4	7,169	0.3	(685)	(8.7)
Total operating expenses	<u>\$ 804,070</u>	<u>43.8</u>	<u>\$ 866,950</u>	<u>41.6</u>	<u>\$ 62,880</u>	<u>7.8</u>

* Denotes % of total revenue

** Denotes % change from 2012 to 2013

- **Research and development expense** benefited from \$4.0 million as a result of foreign exchange rates, primarily due to the strengthening of the U.S. dollar in relation to the Canadian dollar and the Indian Rupee. The \$19.2 million increase primarily reflects increases of \$15.9 million in employee compensation and related costs, \$7.5 million in prototype expense, \$5.2 million in facilities and information systems expense and \$2.1 million in technology-related purchases. The increase in employee compensation is primarily related to incentive-based compensation. These increases were partially offset by a \$12.5 million decrease in professional services.
- **Selling and marketing expense** increased by \$37.8 million, primarily reflecting increases of \$26.5 million in employee compensation and related costs, \$6.8 million in facilities and information systems expense, \$4.5 million of travel and related costs, \$2.0 million in trade show and related expense and \$1.1 million in professional services. A significant portion of our increased employee compensation and related costs reflect commissions-based compensation associated with strong order flows achieved during fiscal 2013. These increases were partially offset by decreases of \$1.9 million of freight and logistic costs and \$1.3 million for customer demonstration equipment.
- **General and administrative expense** increased by \$8.4 million primarily reflecting an increase of \$10.8 million in employee compensation and related costs, partially offset by a \$2.7 million decrease in facilities and information systems expense. The increase in employee compensation is primarily related to incentive-based compensation.

- **Amortization of intangible assets** decreased due to certain intangible assets having reached the end of their economic lives.
- **Restructuring costs** for fiscal 2012 and 2013 primarily reflect certain severance and related expense associated with headcount reductions and restructuring activities to align our workforce and resources with market opportunities and research and development initiatives. In addition, restructuring costs for fiscal 2012 and 2013 include the consolidation of certain facilities located within Maryland associated with the transition of our headquarters facility.

Other items

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

	Fiscal Year				Increase (decrease)	%**
	2012	%*	2013	%*		
Interest and other income (loss), net	\$ (15,200)	(0.8)	\$ (5,744)	(0.3)	\$ 9,456	62.2
Interest expense	\$ 39,653	2.2	\$ 44,042	2.1	\$ 4,389	11.1
Loss on extinguishment of debt	\$ —	0.0	\$ (28,630)	(1.4)	\$ (28,630)	(100.0)
Provision for income taxes	\$ 9,322	0.5	\$ 5,240	0.3	\$ (4,082)	(43.8)

* Denotes % of total revenue

** Denotes % change from 2012 to 2013

- **Interest and other income (loss), net** in fiscal 2013, reflects a \$3.0 million non-cash gain related to the change in fair value of the embedded redemption feature associated with our 2015 Notes. In fiscal 2012, interest and other income (loss), net reflected a \$6.6 million non-cash loss related to the change in fair value of the embedded redemption feature.
- **Interest expense** increased, reflecting increases of \$3.0 million relating to our convertible note exchange transactions during the first quarter of fiscal 2013, and \$2.1 million in expense relating to our asset-backed loan facility entered into during fiscal 2012. These increases were partially offset by a decrease of interest expense in fiscal 2013 of \$0.6 million, principally due to the repayment of our 0.25% convertible senior notes at maturity in the second quarter of fiscal 2013.
- **Loss on extinguishment of debt** reflects a non-cash loss of \$28.6 million relating to the exchange transactions during the first quarter of fiscal 2013. Upon issuance, the 2020 Notes were recorded at a fair value of \$213.6 million. The exchange transactions resulted in the retirement of outstanding 2015 Notes with a carrying value of \$187.9 million and the write-off of unamortized debt issuance costs of \$2.3 million and \$0.6 million relating to the redemption feature on the 2015 Notes accounted for as a separate embedded derivative.
- **Provision for income taxes** for fiscal 2012 and fiscal 2013 are primarily related to foreign tax expense. The decrease in fiscal 2013 is largely attributable to the recognition of prior uncertain tax benefits.

Segment Profit

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

	Fiscal Year			%*
	2013	2014	Increase (decrease)	
Segment profit:				
Converged Packet Optical	\$ 242,335	\$ 353,942	\$ 111,607	46.1
Packet Networking	\$ 22,740	\$ 19,467	\$ (3,273)	(14.4)
Optical Transport	\$ 89,754	\$ 38,974	\$ (50,780)	(56.6)
Software and Services	\$ 126,938	\$ 134,789	\$ 7,851	6.2

* Denotes % change from 2013 to 2014

- **Converged Packet Optical segment profit** increased primarily due to increased sales volume and improved gross margin. The increased sales volume is largely driven by service provider and Web-scale provider demand for high-capacity, coherent 40G and 100G network infrastructures with integrated OTN switching and control plane functionality. The improved gross margin is primarily due to sales reflecting a greater mix of higher-margin packet platforms with software content within the segment. These increases were partially offset by increased research and development expense.
- **Packet Networking segment profit** decreased due to lower margins on our 3000 and 5000 families of service delivery and aggregation switches, reflecting increased pricing pressure and competitive dynamics, and increased research and development expense. Decreased segment profit was partially offset by increased sales volume.
- **Optical Transport segment profit** decreased primarily due to reduced sales volume and lower gross margin, partially offset by lower research and development expense. The decrease in gross margin is primarily due to an increase in obsolete and excess inventory expense for the discontinuance of certain parts and components used in the manufacture of our Optical Transport products, including our Corestream® Agility Optical Transport platform. Revenue for our Optical Transport segment, which currently consists principally of stand-alone WDM and SONET/SDH-based transport platforms, has experienced meaningful declines in annual revenue in recent years, reflecting network operators' transition toward next-generation network architectures as described above.
- **Software and Services segment profit** increased slightly due to higher sales for software and consulting services and improved efficiencies for managed spares projects. These increases were partially offset by higher software research and development expense.

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

	Fiscal Year			%*
	2012	2013	Increase (decrease)	
Segment profit:				
Converged Packet Optical	\$ 148,244	\$ 242,335	\$ 94,091	63.5
Packet Networking	\$ 1,713	\$ 22,740	\$ 21,027	1,227.5
Optical Transport	\$ 116,736	\$ 89,754	\$ (26,982)	(23.1)
Software and Services	\$ 93,352	\$ 126,938	\$ 33,586	36.0

* Denotes % change from 2012 to 2013

- **Converged Packet Optical segment profit** increased primarily due to increased sales volume and improved gross margin, partially offset by increased research and development expense. The increased sales volume is largely driven by service provider demand for high-capacity, optical transport for coherent 40G and 100G network infrastructures and improved gross margin due to a greater mix of higher-margin packet platforms with software content within the segment.
- **Packet Networking segment profit** increased primarily due to increased sales volume and improved gross margin, partially offset by increased research and development expense. Packet Networking revenue benefited from the expansion of Ethernet business services by our North American service provider customers and sales of service

delivery and aggregation products in support of their related network initiatives. Gross margin improved due to a greater mix of higher-margin packet platforms with software content within the segment.

- **Optical Transport segment profit** decreased primarily due to reduced sales volume, partially offset by improved gross margin and lower research and development expense. Revenue for our Optical Transport segment, which currently consists principally of stand-alone WDM and SONET/SDH-based transport platforms, has experienced meaningful declines in annual revenue in recent years, reflecting network operators' transition toward next-generation network architectures as described above.
- **Software and Services segment profit** increased primarily due to increased sales volume and improved gross margin. The increased sales volume is primarily due to higher sales for our software products and installation services. The improved margins are primarily installation and deployment services margins due to improved operational efficiencies.

Liquidity and Capital Resources

At October 31, 2014, our principal sources of liquidity were cash and cash equivalents and investments in marketable debt securities, representing U.S. treasuries and commercial paper, and our ABL Credit Facility. The following table sets forth changes in our cash and cash equivalents and investments in marketable debt securities (in thousands):

	October 31,		Increase (decrease)
	2013	2014	
Cash and cash equivalents	\$ 346,487	\$ 586,720	\$ 240,233
Short-term investments in marketable debt securities	124,979	140,205	15,226
Long-term investments in marketable debt securities	15,031	50,057	35,026
Total cash and cash equivalents and investments in marketable debt securities	<u>\$ 486,497</u>	<u>\$ 776,982</u>	<u>\$ 290,485</u>

The change in total cash and cash equivalents and investments in marketable debt securities during fiscal 2014 was primarily related to the \$246.0 million in net proceeds from our Term Loan as described in "Overview" above and the following:

- \$89.8 million cash provided by operations, consisting of \$195.2 million provided by net losses adjusted for non-cash charges offset by \$105.4 million used in working capital;
- \$48.2 million used for purchases of equipment, furniture, fixtures and intellectual property;
- \$10.0 million used in settlement of foreign currency forward contracts, net;
- \$3.0 million used to pay capital lease obligations; and
- \$17.7 million from proceeds of stock issuances under our employee stock purchase plan and the exercise of stock options.

As of October 31, 2014, letters of credit totaling \$71.4 million were collateralized by our ABL Credit Facility. There were no borrowings outstanding under the ABL Credit Facility as of October 31, 2014. See "ABL Credit Facility" below for additional information.

We regularly evaluate our liquidity position, debt obligations, and anticipated cash needs to fund our operating plans and may consider capital raising and other market opportunities that may be available to us. Based on past performance and current expectations, we believe that our cash, cash equivalents, investments and other sources of liquidity, including our ABL Credit Facility, will satisfy our working capital needs, capital expenditures, the repayment of our outstanding 4.0% convertible senior notes due March 15, 2015 and other liquidity requirements associated with our operations through at least the next 12 months.

The following sections set forth the components of our \$89.8 million of cash provided by operating activities for fiscal 2014 :

Net loss adjusted for non-cash charges

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

	Year ended October 31, 2014
Net loss	\$ (40,637)
Adjustments for non-cash charges:	
Depreciation of equipment, furniture and fixtures, and amortization of leasehold improvements	55,616
Share-based compensation costs	42,930
Amortization of intangible assets	57,151
Provision for inventory excess and obsolescence	32,332
Provision for warranty	22,129
Other	25,668
Net losses adjusted for non-cash charges	<u>\$ 195,189</u>

Working Capital

Accounts Receivable, Net

Cash used in increases in accounts receivable during fiscal 2014, net of \$2.8 million in provision for doubtful accounts, was \$33.2 million. This reflects an increase in our revenue, partially offset by a decrease in days sales outstanding. Our days sales outstanding (DSOs) decreased from 84 days for fiscal 2013 to 82 days for fiscal 2014. The decrease in DSOs primarily reflects shorter customer payment terms.

The following table sets forth (in thousands) changes to our accounts receivable, net of allowance for doubtful accounts, from the end of fiscal 2013 through the end of fiscal 2014:

	October 31,		Increase (decrease)
	2013	2014	
Accounts receivable, net	<u>\$ 488,578</u>	<u>\$ 518,981</u>	<u>\$ 30,403</u>

Inventory

Cash used in increases in inventory during fiscal 2014 was \$37.9 million. The increase in inventory reflects our decision to carry more finished goods inventory for our Converged Packet Optical products to reduce our lead times for shipments to customers. Our inventory turns increased from 3.9 turns during fiscal 2013 to 4.3 turns during fiscal 2014. Our inventory balance, as reported on our Consolidated Balance Sheet, increased by \$5.6 million during fiscal 2014. This change reflects our \$37.9 million cash usage for inventory, partially offset by a \$32.3 million non-cash provision for excess and obsolescence. The following table sets forth changes (in thousands) to the components of our inventory from the end of fiscal 2013 through the end of fiscal 2014:

	October 31,		Increase (decrease)
	2013	2014	
Raw materials	\$ 53,274	\$ 64,853	\$ 11,579
Work-in-process	7,773	8,371	598
Finished goods	153,855	165,799	11,944
Deferred cost of goods sold	75,764	75,763	(1)
Gross inventory	290,666	314,786	24,120
Provision for inventory excess and obsolescence	(41,563)	(60,126)	(18,563)
Inventory	<u>\$ 249,103</u>	<u>\$ 254,660</u>	<u>\$ 5,557</u>

Prepaid expenses and other

Cash used in prepaid expense and other during fiscal 2014 was \$7.9 million and primarily related to higher product demonstration equipment and deferred deployment expense.

Accounts payable, accruals and other obligations

Utilization of cash resources for accounts payable, accruals and other obligations during fiscal 2014 was \$59.8 million . This amount reflects a \$29.5 million decrease in our accounts payable, accruals and other obligations plus additional liabilities recorded for the following items: \$22.1 million relating to warranties; \$7.3 million for financing activities relating to unpaid capital leases; and \$2.1 million related to our interest rate swap derivative. These items were partially offset by a decrease of \$1.2 million for investing activities related to equipment purchases.

The following table sets forth (in thousands) changes in our accounts payable, accruals and other obligations from the end of fiscal 2013 through the end of fiscal 2014 :

	October 31,		Increase (decrease)
	2013	2014	
Accounts payable	\$ 254,849	\$ 209,777	\$ (45,072)
Accrued liabilities and other short-term obligations	271,656	276,608	4,952
Other long-term obligations	34,753	45,390	10,637
Accounts payable, accruals and other obligations	<u>\$ 561,258</u>	<u>\$ 531,775</u>	<u>\$ (29,483)</u>

Interest Paid on Convertible Notes, ABL Credit Facility and Term Loan

Interest on our outstanding 4.0% convertible senior notes, due March 15, 2015, is payable on March 15 and September 15 of each year. We paid \$7.5 million in interest on these convertible notes during fiscal 2014 .

Interest on our outstanding 0.875% convertible senior notes, due June 15, 2017, is payable on June 15 and December 15 of each year. We paid \$4.4 million in interest on these convertible notes during fiscal 2014 .

Interest on our outstanding 3.75% convertible senior notes, due October 15, 2018, is payable on April 15 and October 15 of each year. We paid \$13.1 million in interest on these convertible notes during fiscal 2014 .

Interest on our outstanding 4.0% convertible senior notes, due December 15, 2020, is payable on June 15 and December 15 of each year. We paid \$7.5 million in interest on these convertible notes during fiscal 2014 .

Interest on our outstanding Term Loan, due July 15, 2019, is payable periodically based on the underlying market index rate selected for borrowing. We paid \$2.6 million in interest on this term loan during fiscal 2014 .

During fiscal 2014 , we utilized the ABL Credit Facility to collateralize certain standby letters of credit. We paid \$1.2 million in commitment fees, interest expense and other administrative charges relating to our ABL Credit Facility during fiscal 2014 .

For additional information about our convertible notes and Term Loan, see Note 14 to our Consolidated Financial Statements included in Item 8 of Part II of this report. For additional information about our ABL Credit Facility, see Note 15 to our Consolidated Financial Statements included in Item 8 of Part II of this report and "ABL Credit Facility" below.

Deferred revenue

Deferred revenue increased by \$33.4 million during fiscal 2014 . Product deferred revenue represents either payments received in advance of shipment or payments received after shipment but before revenue recognition. Services deferred revenue is related to payment for service contracts for which revenue will be recognized over the contract term. The following table reflects (in thousands) the balance of deferred revenue and the change in this balance from the end of fiscal 2013 through the end of fiscal 2014 :

	October 31,		Increase (decrease)
	2013	2014	
Products	\$ 36,671	\$ 50,457	\$ 13,786
Services	75,499	95,161	19,662
Total deferred revenue	\$ 112,170	\$ 145,618	\$ 33,448

ABL Credit Facility

During fiscal 2014, we amended our ABL Credit Facility to, among other things:

- increase the total committed amount from \$150 million to \$200 million;
- extend the maturity date from August 13, 2015 to December 31, 2016 (and eliminate a December 15, 2014 maturity date acceleration feature);
- reduce from \$200 million to \$150 million the minimum aggregate amount of unrestricted cash and cash equivalents that we are required to maintain at all times;
- reduce the interest rate on borrowings from LIBOR plus an applicable margin ranging from 200 basis points to 250 basis points, to an applicable margin ranging from 150 basis points to 200 basis points, with the actual margin determined based on our utilization of the credit facility; and
- amend the borrowing base to include, among other items, up to \$50 million in eligible cash.

We principally use the liquidity available under the ABL Credit Facility to support the issuance of letters of credit that arise in the ordinary course of our business and thereby to reduce our use of cash required to collateralize these instruments.

Contractual Obligations

During fiscal 2014, we entered into a Term Loan Credit Agreement that provides for senior secured term loans in an aggregate principal amount of \$250 million as described in "Overview" above. During the fourth quarter of fiscal 2014, we entered into a lease relating to office space for its new research and development center in Ottawa, Canada, consisting of a rentable area of approximately 170,582 square feet. The future minimum rental commitments to be paid over the 18-year lease term are approximately \$49.1 million. The following is a summary of our future minimum payments under contractual obligations as of October 31, 2014 (in thousands):

	Total	Less than one year	One to three years	Three to five years	Thereafter
Principal due at maturity on convertible notes (1)	1,254,627	187,500	500,000	350,000	217,127
Principal due on term loan	249,375	2,500	5,000	241,875	—
Interest due on convertible notes	118,125	28,750	50,000	28,125	11,250
Interest due on term loan (2)	44,045	9,449	18,640	15,956	—
Operating leases (3)	204,898	33,527	59,837	28,343	83,191
Purchase obligations (4)	197,753	197,753			
Capital lease	13,020	8,312	4,708	—	—
Other obligations	7,002	3,814	3,188	—	—
Total (5)	\$ 2,088,845	\$ 471,605	\$ 641,373	\$ 664,299	\$ 311,568

- (1) Includes the accretion of the principal amount on the 2020 Notes payable at maturity at a rate of 1.85% per year compounded semi-annually, commencing December 27, 2012.
- (2) Interest on the term loan is variable and was calculated using the rate in effect on the balance sheet date.
- (3) Does not include variable insurance, taxes, maintenance and other costs that may be required by the applicable operating lease. These costs are not expected to have a material future impact.

- (4) Purchase obligations relate to purchase order commitments to our contract manufacturers and component suppliers for inventory. In certain instances, we are permitted to cancel, reschedule or adjust these orders. Consequently, only a portion of the amount reported above relates to firm, non-cancelable and unconditional obligations.
- (5) As of October 31, 2014, we also had approximately \$14.4 million of other long-term obligations on our Consolidated Balance Sheet for unrecognized tax positions that are not included in this table because the timing or amount of any cash settlement with the respective tax authority cannot be reasonably estimated.

Some of our commercial commitments, including some of the future minimum payments in operating leases set forth above and certain commitments to customers, are secured by standby letters of credit collateralized under our ABL Credit Facility or restricted cash. Restricted cash balances are included in other current assets or other long-term assets depending upon the duration of the underlying letter of credit obligation. The following is a summary of our commercial commitments secured by standby letters of credit by commitment expiration date as of October 31, 2014 (in thousands):

	Total	Less than one year	One to three years	Three to five years	Thereafter
Standby letters of credit	\$ 71,449	\$ 34,409	\$ 21,883	\$ 3,711	\$ 11,446

Off-Balance Sheet Arrangements

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

Critical Accounting Policies and Estimates

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

We believe that the following critical accounting policies reflect those areas where significant judgments and estimates are used in the preparation of our consolidated financial statements.

Revenue Recognition

We recognize revenue when all of the following criteria are met: persuasive evidence of an arrangement exists; delivery has occurred or services have been rendered; the price to the buyer is fixed or determinable; and collectibility is reasonably assured. Customer purchase agreements and customer purchase orders are generally used to determine the existence of an arrangement. Shipping documents and evidence of customer acceptance, when applicable, are used to verify delivery or services rendered. We assess whether the price is fixed or determinable based on the payment terms associated with the transaction and whether the sales price is subject to refund or adjustment. We assess collectibility based primarily on the creditworthiness of the customer as determined by credit checks and analysis, as well as the customer's payment history. Revenue for maintenance services is deferred and recognized ratably over the period during which the services are to be performed. Shipping and handling fees billed to customers are included in revenue, with the associated expenses included in product cost of goods sold.

We apply the percentage-of-completion method to long-term arrangements where it is required to undertake significant production, customization or modification engineering, and reasonable and reliable estimates of revenue and cost are available. Utilizing the percentage-of-completion method, we recognize revenue based on the ratio of actual costs incurred to date to total estimated costs expected to be incurred. In instances that do not meet the percentage-of-completion method criteria, recognition of revenue is deferred until there are no uncertainties regarding customer acceptance. Unbilled percentage-of-completion revenues recognized are included in accounts receivable, net. Billings in excess of revenues recognized on these contracts are

recorded within deferred revenue. The percentage of revenue recognized using the percentage-of-completion method for the fiscal years ended October 31, 2012, October 31, 2013 and October 31, 2014 were 1.0% , 4.5% and 4.0% , respectively.

Software revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred, the fee is fixed or determinable, and collectibility is probable. In instances where final acceptance criteria of the software are specified by the customer, revenue is deferred until there are no uncertainties regarding customer acceptance.

We limit the amount of revenue recognition for delivered elements to the amount that is not contingent on the future delivery of products or services, future performance obligations or subject to customer-specified return or refund privileges.

Revenue for multiple element arrangements is allocated to each unit of accounting based on the relative selling price of each delivered element, with revenue recognized for each delivered element when the revenue recognition criteria are met. We determine the selling price for each deliverable based upon the selling price hierarchy for multiple-deliverable arrangements. Under this hierarchy, we use vendor-specific objective evidence ("VSOE") of selling price, if it exists, or third party evidence ("TPE") of selling price if VSOE does not exist. If neither VSOE nor TPE of selling price exists for a deliverable, we use our best estimate of selling price ("BESP") for that deliverable. For multiple element software arrangements where VSOE of undelivered maintenance does not exist, revenue for the entire arrangement is recognized over the maintenance term.

VSOE, when determinable, is established based on our pricing and discounting practices for the specific product or service when sold separately. In determining whether VSOE exists, we require that a substantial majority of the selling prices for a product or service fall within a reasonably narrow pricing range. We have generally been unable to establish TPE of selling price because our go-to-market strategy differs from that of others in our markets, and the extent of customization and differentiated features and functions varies among comparable products or services from our peers. We determine BESP based upon management-approved pricing guidelines, which consider multiple factors including the type of product or service, gross margin objectives, competitive and market conditions, and the go-to-market strategy, all of which can affect pricing practices.

Our total deferred revenue for products was \$36.7 million and \$50.5 million as of October 31, 2013 and October 31, 2014 , respectively. Our services revenue is deferred and recognized ratably over the period during which the services are to be performed. Our total deferred revenue for services was \$75.5 million and \$95.2 million as of October 31, 2013 and October 31, 2014 , respectively.

Share-Based Compensation

We estimate the fair value of our restricted stock unit awards based on the fair value of our common stock on the date of grant. Our outstanding restricted stock unit awards are subject to service-based vesting conditions and/or performance-based vesting conditions. We recognize the estimated fair value of service-based awards, net of estimated forfeitures, as share-based expense ratably over the vesting period on a straight-line basis. Awards with performance-based vesting conditions require the achievement of certain financial or other performance criteria or targets as a condition to the vesting, or acceleration of vesting. We recognize the estimated fair value of performance-based awards, net of estimated forfeitures, as share-based expense over the performance period, using graded vesting, which considers each performance period or tranche separately, based upon our determination of whether it is probable that the performance targets will be achieved. At each reporting period, we reassess the probability of achieving the performance targets and the performance period required to meet those targets and the expense is adjusted accordingly. Determining whether the performance targets will be achieved involves judgment, and the estimate of expense may be revised periodically based on changes in the probability of achieving the performance targets. Revisions are reflected in the period in which the estimate is changed. If any performance goals are not met, no compensation cost is ultimately recognized against that goal and, to the extent previously recognized, compensation cost is reversed.

Because share-based compensation expense is based on awards that are ultimately expected to vest, the amount of expense takes into account estimated forfeitures. We estimate forfeitures at the time of grant and revise these estimates, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Changes in these estimates and assumptions can materially affect the measurement of estimated fair value of our share-based compensation. See Note 19 to our Consolidated Financial Statements in Item 8 of Part II of this report for information regarding our assumptions related to share-based compensation and the amount of share-based compensation expense we incurred for the periods covered in this report. As of October 31, 2014 , total unrecognized compensation expense was \$57.2 million , which relates to unvested restricted stock units and is expected to be recognized over a weighted-average period of 1.4 years.

We recognize windfall tax benefits associated with the exercise of stock options or release of restricted stock units directly to stockholders' equity only when realized. A windfall tax benefit occurs when the actual tax benefit realized by us upon an employee's disposition of a share-based award exceeds the deferred tax asset, if any, associated with the award that we had

recorded. When assessing whether a tax benefit relating to share-based compensation has been realized, we follow the “with-and-without” method. Under the with-and-without method, the windfall is considered realized and recognized for financial statement purposes only when an incremental benefit is provided after considering all other tax benefits including our net operating losses. The with-and-without method results in the windfall from share-based compensation awards always being effectively the last tax benefit to be considered. Consequently, the windfall attributable to share-based compensation will not be considered realized in instances where our net operating loss carryover (that is unrelated to windfalls) is sufficient to offset the current year’s taxable income before considering the effects of current-year windfalls.

Reserve for Inventory Obsolescence

We make estimates about future customer demand for our products when establishing the appropriate reserve for excess and obsolete inventory. We write down inventory that has become obsolete or unmarketable by an amount equal to the difference between the cost of inventory and the estimated market value based on assumptions about future demand and market conditions. Inventory write downs are a component of our product cost of goods sold. Upon recognition of the write down, a new lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in that newly established cost basis. In an effort to limit our exposure to delivery delays and to satisfy customer needs we purchase inventory based on forecasted sales across our product lines. In addition, part of our research and development strategy is to promote the convergence of similar features and functionalities across our product lines. Each of these practices exposes us to the risk that our customers will not order products for which we have forecasted sales, or will purchase less than we have forecasted. Historically, we have experienced write downs due to changes in our strategic direction, discontinuance of a product and declines in market conditions. We recorded charges for excess and obsolete inventory of \$19.9 million and \$32.3 million in fiscal 2013 and 2014, respectively. The charges in fiscal 2013 and fiscal 2014 primarily related to engineering design changes and the discontinuance of certain parts and components used in the manufacture of our Optical Transport, including our Corestream® Agility Optical Transport platform, and Converged Packet Optical products. Our inventory net of allowance for excess and obsolescence was \$249.1 million and \$254.7 million as of October 31, 2013 and October 31, 2014, respectively.

Allowance for Doubtful Accounts Receivable

Our allowance for doubtful accounts receivable is based on management's assessment, on a specific identification basis, of the collectibility of customer accounts. We perform ongoing credit evaluations of our customers and generally have not required collateral or other forms of security from customers. In determining the appropriate balance for our allowance for doubtful accounts receivable, management considers each individual customer account receivable in order to determine collectibility. In doing so, we consider creditworthiness, payment history, account activity and communication with such customer. If a customer's financial condition changes, or if actual defaults are higher than our historical experience, we may be required to take a charge for an allowance for doubtful accounts receivable which could have an adverse impact on our results of operations. Our accounts receivable, net of allowance for doubtful accounts, was \$488.6 million and \$519.0 million as of October 31, 2013 and October 31, 2014, respectively. Our allowance for doubtful accounts was \$2.0 million and \$2.1 million as of October 31, 2013 and October 31, 2014, respectively.

Long-lived Assets

Our long-lived assets include: equipment, furniture and fixtures, finite-lived intangible assets and maintenance spares. As of October 31, 2013 and October 31, 2014 these assets totaled \$366.9 million and \$309.4 million, net, respectively. We test long-lived assets for impairment whenever events or changes in circumstances indicate that the assets' carrying amount is not recoverable from its undiscounted cash flows. Our long-lived assets are assigned to asset groups which represent the lowest level for which we identify cash flows. We measure impairment loss as the amount by which the carrying amount of the asset or asset group exceeds its fair value.

Deferred Tax Valuation Allowance

As of October 31, 2014, we have recorded a valuation allowance offsetting all our net deferred tax assets of \$1.5 billion. When measuring the need for a valuation allowance, we assess both positive and negative evidence regarding the realizability of these deferred tax assets. We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. In determining net deferred tax assets and valuation allowances, management is required to make judgments and estimates related to projections of profitability, the timing and extent of the utilization of net operating loss carryforwards, applicable tax rates, transfer pricing methodologies and tax planning strategies. The valuation allowance is reviewed quarterly and is maintained until sufficient positive evidence exists to support a reversal. Because evidence such as our operating results during the most recent three-year period is afforded more weight than forecasted results for future periods,

our cumulative loss during this three-year period represents sufficient negative evidence regarding the need for nearly a full valuation allowance. We will release this valuation allowance when management determines that it is more likely than not that our deferred tax assets will be realized. Any future release of valuation allowance may be recorded as a tax benefit increasing net income or as an adjustment to paid-in capital, based on tax ordering requirements.

Warranty

Our liability for product warranties, included in other accrued liabilities, was \$56.3 million and \$56.0 million as of October 31, 2013 and October 31, 2014, respectively. Our products are generally covered by a warranty for periods ranging from one to five years. We accrue for warranty costs as part of our cost of goods sold based on associated material costs, technical support labor costs and associated overhead. Material cost is estimated based primarily upon historical trends in the volume of product returns within the warranty period and the cost to repair or replace the equipment. Technical support labor cost is estimated based primarily upon historical trends and the cost to support the customer cases within the warranty period. The provision for product warranties was \$24.6 million and \$22.1 million for fiscal 2013 and 2014, respectively. See Note 11 to the Consolidated Financial Statements included in Item 8 of Part II of this report. The provision for warranty claims may fluctuate on a quarterly basis depending upon the mix of products and customers in that period. If actual product failure rates, material replacement costs, service or labor costs differ from our estimates, revisions to the estimated warranty provision would be required. An increase in warranty claims or the related costs associated with satisfying our warranty obligations could increase our cost of sales and negatively affect our gross margin.

Effects of Recent Accounting Pronouncements

See Note 1 to our Consolidated Financial Statements in Item 8 of Part II of this report for information relating to our discussion of the effects of recent accounting pronouncements.

Unaudited Quarterly Results of Operations

The tables below (in thousands, except per share data) set forth the operating results in our consolidated statements of operations for each of the eight quarters in the period ended October 31, 2014. This information is unaudited, but in our opinion reflects all adjustments (consisting only of normal recurring adjustments) that we consider necessary for a fair statement of such information in accordance with generally accepted accounting principles. The results for any quarter are not necessarily indicative of results for any future period.

Table of Contents

	Jan. 31, 2013	Apr. 30, 2013	Jul. 31, 2013	Oct. 31, 2013	Jan. 31, 2014	Apr. 30, 2014	Jul. 31, 2014	Oct. 31, 2014
Revenue:								
Products	\$ 353,057	\$ 413,217	\$ 437,442	\$ 476,409	\$ 432,941	\$ 460,821	\$ 495,889	\$ 476,175
Services	100,036	94,495	100,914	106,976	100,762	99,240	107,673	114,788
Total Revenue	453,093	507,712	538,356	583,385	533,703	560,061	603,562	590,963
Cost of goods sold:								
Products	196,521	239,441	247,768	283,780	245,216	257,632	275,003	305,171
Services	60,777	58,758	62,367	67,959	62,636	64,738	64,586	64,955
Total costs of goods sold	257,298	298,199	310,135	351,739	307,852	322,370	339,589	370,126
Gross profit	195,795	209,513	228,221	231,646	225,851	237,691	263,973	220,837
Operating expenses:								
Research and development	89,125	100,787	93,069	100,427	101,497	103,492	97,685	98,506
Selling and marketing	66,588	74,475	75,613	87,494	78,348	83,662	81,919	84,396
General and administrative	28,208	30,883	32,066	31,275	30,097	31,882	36,285	28,560
Amortization of intangible assets	12,453	12,439	12,440	12,439	12,439	11,493	11,019	11,019
Restructuring costs	5,030	1,509	202	428	115	—	63	171
Total operating expenses	201,404	220,093	213,390	232,063	222,496	230,529	226,971	222,652
Income (loss) from operations	(5,609)	(10,580)	14,831	(417)	3,355	7,162	37,002	(1,815)
Interest and other income (loss), net	(137)	(2,716)	(3,167)	276	(5,998)	(1,905)	(6,328)	(11,031)
Interest expense	(10,732)	(11,392)	(10,972)	(10,946)	(11,028)	(11,020)	(11,508)	(13,559)
Loss on extinguishment of debt	(28,630)	—	—	—	—	—	—	—
Income (loss) before income taxes	(45,108)	(24,688)	692	(11,087)	(13,671)	(5,763)	19,166	(26,405)
Provision (benefit from) for income tax	2,216	2,391	1,923	(1,290)	2,265	4,395	3,006	4,298
Net income (loss)	\$ (47,324)	\$ (27,079)	\$ (1,231)	\$ (9,797)	\$ (15,936)	\$ (10,158)	\$ 16,160	\$ (30,703)
Basic net income (loss) per common share	\$ (0.47)	\$ (0.27)	\$ (0.01)	\$ (0.09)	\$ (0.15)	\$ (0.10)	\$ 0.15	\$ (0.29)
Diluted net income (loss) per potential common share	\$ (0.47)	\$ (0.27)	\$ (0.01)	\$ (0.09)	\$ (0.15)	\$ (0.10)	\$ 0.15	\$ (0.29)
Weighted average basic common shares outstanding	101,204	101,913	102,713	103,523	104,501	105,451	106,236	106,931
Weighted average dilutive potential common shares outstanding	101,204	101,913	102,713	103,523	104,501	105,451	120,809	106,931

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The following discussion about our market risk disclosures includes forward-looking statements. Actual results could differ materially from those projected in these forward-looking statements. We are exposed to market risk related to changes in interest rates and foreign currency exchange rates.

Interest Rate Sensitivity. We currently hold investments in U.S. Government obligations and commercial paper with varying maturities. See Notes 4 and 5 to our Consolidated Financial Statements included in Item 8 of Part II of this report for information relating to investments and fair value. These investments are sensitive to interest rate movements and their fair value will decline as interest rates rise and increase as interest rates decline. The estimated impact on these investments of a 100 basis point (1.0%) increase in interest rates across the yield curve from rates in effect as of the balance sheet date would be a \$1.2 million decline in value.

Our earnings and cash flows from operations may be exposed to changes in interest rates because of the floating rate of interest in our Term Loan. See Note 14 to our Consolidated Financial Statements for information relating to the Term Loan. The Term Loan bears interest at LIBOR plus a spread of 300 basis points subject to a minimum LIBOR rate of 0.75%. As of October 31, 2014, the interest rate in effect on our Term Loan was 3.75%. During fiscal 2014, Ciena entered into interest rate cap arrangements to limit the interest rate under the Term Loan to a maximum LIBOR rate of 0.75% plus a spread of 300 basis points through July 2015. Also in fiscal 2014, Ciena entered into interest rate swap arrangements ("interest rate swap") that fix the total interest rate under the Term Loan at 5.004%, for the period commencing on July 20, 2015 through July 19, 2018. As such, a 100 basis point increase in the LIBOR rate as of our most recent LIBOR rate setting would have an immaterial impact in annualized interest expense on our Term Loan as recognized in our Consolidated Financial Statements.

Foreign Currency Exchange Risk. As a global concern, our business and results of operations are exposed to movements in foreign currency exchange rates. Due to our global presence, some of our revenue is non-U.S. dollar denominated with Canadian Dollars and Euros being our most significant foreign currency revenue streams. If the U.S. dollar strengthens against these currencies, our revenues reported in U.S. dollars would decline. For our U.S. dollar denominated sales, an increase in the value of the U.S. dollar would increase the real cost to our customers of our products in markets outside the United States, which could impact our competitive position.

With regard to operating expense, our primary exposure to foreign currency exchange risk relates to operating expense incurred in Canadian Dollars, British Pounds, Euros and Indian Rupees. During fiscal 2014, approximately 48.1% of our operating expense was non-U.S. dollar denominated. If these currencies strengthen, costs reported in U.S. dollars will increase. During fiscal 2014, research and development expense benefited by approximately \$15.4 million, net of hedging losses of \$1.4 million, primarily due to the strengthening of the U.S. dollar in relation to the Canadian Dollar in comparison to fiscal 2013. Also in fiscal 2014, sales and marketing expense benefited by approximately \$1.9 million due to the strengthening of the U.S. dollar in relation to the Canadian Dollar in comparison to fiscal 2013.

From time to time, Ciena uses foreign currency forward contracts to reduce variability in certain forecasted non-U.S. dollar denominated cash flows. Generally, these derivatives have maturities of 12 months or less and are designated as cash flow hedges. At the inception of the cash flow hedge, and on an ongoing basis, Ciena assesses whether the forward contract has been effective in offsetting changes in cash flows attributable to the hedged risk during the hedging period. The effective portion of the derivative's net gain or loss is initially reported as a component of accumulated other comprehensive income (loss) and, upon the occurrence of the forecasted transaction, is subsequently reclassified to the line item in the Consolidated Statement of Operations to which the hedged transaction relates. Any net gain or loss associated with the ineffectiveness of the hedging instrument is reported in interest and other income (loss), net.

Ciena Corporation, as the U.S. parent entity, uses the U.S. dollar as its functional currency, however some of Ciena's foreign branch offices and subsidiaries use the local currency as their functional currency. During fiscal 2014, Ciena recorded \$15.7 million in foreign currency exchange losses, as a result of monetary assets and liabilities that were transacted in a currency other than the entity's functional currency, and the re-measurement adjustments were recorded in interest and other income (loss), net on the Consolidated Statement of Operations. From time to time, Ciena uses foreign currency forwards to hedge these balance sheet exposures. These forwards are not designated as hedges for accounting purposes and any net gain or loss associated with these derivatives is reported in interest and other income (loss), net. See Note 1, Note 3 and Note 12 to our Consolidated Financial Statements included in Item 8 of Part II of this report.

Convertible Notes Outstanding. The fair market value of each of our outstanding issues of convertible notes is subject to interest rate and market price risk due to the convertible feature of the notes and other factors. Generally the fair market value of fixed interest rate debt will increase as interest rates fall and decrease as interest rates rise. The fair market value of the notes

[Table of Contents](#)

may also increase as the market price of our stock rises and decrease as the market price of our stock falls. Interest rate and market value changes affect the fair market value of the notes and may affect the prices at which we would be able to repurchase such notes were we to do so. These changes do not impact our financial position, cash flows or results of operations. For additional information on the fair value of our outstanding notes, see Note 14 to our Consolidated Financial Statements included in Item 8 of Part II of this report.

Table of Contents

Item 8. Financial Statements and Supplementary Data

The following is an index to the consolidated financial statements:

	Page Number
Report of Independent Registered Public Accounting Firm	60
Consolidated Balance Sheets	61
Consolidated Statements of Operations	62
Consolidated Statements of Comprehensive Income (Loss)	63
Consolidated Statements of Changes in Stockholders' Equity (Deficit)	64
Consolidated Statements of Cash Flows	65
Notes to Consolidated Financial Statements	66

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Ciena Corporation:

In our opinion, the accompanying consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of Ciena Corporation and its subsidiaries (the "Company") at October 31, 2014 and 2013, and the results of their operations and their cash flows for each of the three years in the period ended October 31, 2014 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2014, based on criteria established in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control Over Financial Reporting under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

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

/s/ PricewaterhouseCoopers LLP
Baltimore, Maryland

December 19, 2014

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

	October 31,	
	2013	2014
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 346,487	\$ 586,720
Short-term investments	124,979	140,205
Accounts receivable, net	488,578	518,981
Inventories	249,103	254,660
Prepaid expenses and other	186,655	192,624
Total current assets	1,395,802	1,693,190
Long-term investments	15,031	50,057
Equipment, furniture and fixtures, net	119,729	126,632
Other intangible assets, net	185,828	128,677
Other long-term assets	86,380	74,076
Total assets	<u>\$ 1,802,770</u>	<u>\$ 2,072,632</u>
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	\$ 254,849	\$ 209,777
Accrued liabilities and other short-term obligations	271,656	276,608
Deferred revenue	88,550	104,688
Current portion of long-term debt	—	190,063
Total current liabilities	615,055	781,136
Long-term deferred revenue	23,620	40,930
Other long-term obligations	34,753	45,390
Long-term debt, net	1,212,019	1,274,791
Total liabilities	1,885,447	2,142,247
Commitments and contingencies (Note 22)		
Stockholders' equity (deficit):		
Preferred stock — par value \$0.01; 20,000,000 shares authorized; zero shares issued and outstanding	—	—
Common stock — par value \$0.01; 290,000,000 shares authorized; 103,705,709 and 106,979,960 shares issued and outstanding	1,037	1,070
Additional paid-in capital	5,893,880	5,954,440
Accumulated other comprehensive loss	(7,774)	(14,668)
Accumulated deficit	(5,969,820)	(6,010,457)
Total stockholders' equity (deficit)	(82,677)	(69,615)
Total liabilities and stockholders' equity (deficit)	<u>\$ 1,802,770</u>	<u>\$ 2,072,632</u>

The accompanying notes are an integral part of these consolidated financial statements.

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

	Year Ended October 31,		
	2012	2013	2014
Revenue:			
Products	\$ 1,454,991	\$ 1,680,125	\$ 1,865,826
Services	378,932	402,421	422,463
Total revenue	1,833,923	2,082,546	2,288,289
Cost of goods sold:			
Products	868,805	967,510	1,083,022
Services	240,894	249,861	256,915
Total cost of goods sold	1,109,699	1,217,371	1,339,937
Gross profit	724,224	865,175	948,352
Operating expenses:			
Research and development	364,179	383,408	401,180
Selling and marketing	266,338	304,170	328,325
General and administrative	114,002	122,432	126,824
Amortization of intangible assets	51,697	49,771	45,970
Restructuring costs	7,854	7,169	349
Total operating expenses	804,070	866,950	902,648
Income (loss) from operations	(79,846)	(1,775)	45,704
Interest and other income (loss), net	(15,200)	(5,744)	(25,262)
Interest expense	(39,653)	(44,042)	(47,115)
Loss on extinguishment of debt	—	(28,630)	—
Loss before income taxes	(134,699)	(80,191)	(26,673)
Provision for income taxes	9,322	5,240	13,964
Net loss	\$ (144,021)	\$ (85,431)	\$ (40,637)
Basic net loss per common share	\$ (1.45)	\$ (0.83)	\$ (0.38)
Diluted net loss per potential common share	\$ (1.45)	\$ (0.83)	\$ (0.38)
Weighted average basic common shares outstanding	99,341	102,350	105,783
Weighted average dilutive potential common shares outstanding	99,341	102,350	105,783

The accompanying notes are an integral part of these consolidated financial statements.

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	Year ended October 31,		
	2012	2013	2014
Net loss	\$ (144,021)	\$ (85,431)	\$ (40,637)
Change in unrealized gain (loss) on available-for-sale securities, net of tax	(166)	(14)	41
Change in unrealized gain (loss) on foreign currency forward contracts, net of tax	49	(310)	114
Change in unrealized gain (loss) on interest rate hedging contracts, net of tax	—	—	(2,109)
Change in accumulated translation adjustments	(3,268)	(4,096)	(4,940)
Other comprehensive loss	(3,385)	(4,420)	(6,894)
Total comprehensive loss	<u>\$ (147,406)</u>	<u>\$ (89,851)</u>	<u>\$ (47,531)</u>

The accompanying notes are an integral part of these consolidated financial statements.

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(in thousands, except share data)

	Common Stock Shares	Par Value	Additional Paid-in- Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance at October 31, 2011	97,440,436	\$ 974	\$5,753,236	\$ 31	\$(5,740,368)	\$ 13,873
Net loss	—	—	—	—	(144,021)	(144,021)
Other comprehensive loss	—	—	—	(3,385)	—	(3,385)
Issuance of shares from employee equity plans	3,161,356	32	12,135	—	—	12,167
Share-based compensation expense	—	—	32,394	—	—	32,394
Balance at October 31, 2012	100,601,792	1,006	5,797,765	(3,354)	(5,884,389)	(88,972)
Net loss	—	—	—	—	(85,431)	(85,431)
Other comprehensive loss	—	—	—	(4,420)	—	(4,420)
Equity component of convertible notes payable issued	—	—	43,131	—	—	43,131
Equity component of deferred debt issuance costs	—	—	(603)	—	—	(603)
Issuance of shares from employee equity plans	3,103,917	31	15,867	—	—	15,898
Share-based compensation expense	—	—	37,720	—	—	37,720
Balance at October 31, 2013	103,705,709	1,037	5,893,880	(7,774)	(5,969,820)	(82,677)
Net loss	—	—	—	—	(40,637)	(40,637)
Other comprehensive loss	—	—	—	(6,894)	—	(6,894)
Issuance of shares from employee equity plans	3,274,251	33	17,630	—	—	17,663
Share-based compensation expense	—	—	42,930	—	—	42,930
Balance at October 31, 2014	<u>106,979,960</u>	<u>\$ 1,070</u>	<u>\$5,954,440</u>	<u>\$ (14,668)</u>	<u>\$(6,010,457)</u>	<u>\$ (69,615)</u>

The accompanying notes are an integral part of these consolidated financial statements.

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended October 31,		
	2012	2013	2014
Cash flows from operating activities:			
Net loss	\$ (144,021)	\$ (85,431)	\$ (40,637)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Loss on extinguishment of debt	—	28,630	—
Depreciation of equipment, furniture and fixtures, and amortization of leasehold improvements	59,099	55,699	55,616
Share-based compensation costs	32,394	37,720	42,930
Amortization of intangible assets	74,497	71,308	57,151
Provision for inventory excess and obsolescence	23,438	19,938	32,332
Provision for warranty	33,418	24,558	22,129
Other	13,722	9,023	25,668
Changes in assets and liabilities:			
Accounts receivable	70,366	(145,421)	(33,164)
Inventories	(53,460)	(8,943)	(37,889)
Prepaid expenses and other	1,748	(82,809)	(7,931)
Accounts payable, accruals and other obligations	12,610	115,312	(59,837)
Deferred revenue	(16,722)	5,094	33,448
Net cash provided by operating activities	107,089	44,678	89,816
Cash flows used in investing activities:			
Payments for equipment, furniture, fixtures and intellectual property	(48,098)	(43,814)	(48,216)
Restricted cash	35,597	2,338	2,060
Purchase of available for sale securities	—	(184,864)	(245,196)
Proceeds from maturities of available for sale securities	—	95,000	195,000
Proceeds from sale of cost method investment	524	—	—
Settlement of foreign currency forward contracts, net	—	479	(10,041)
Net cash used in investing activities	(11,977)	(130,861)	(106,393)
Cash flows from financing activities:			
Proceeds from issuance of long-term debt, net	—	—	248,750
Payment of long-term debt	—	(216,210)	(625)
Payment of debt and equity issuance costs	(2,332)	(3,692)	(4,227)
Payment of capital lease obligations	(1,895)	(3,335)	(3,034)
Proceeds from issuance of common stock	12,167	15,898	17,663
Net cash provided by (used in) financing activities	7,940	(207,339)	258,527
Effect of exchange rate changes on cash and cash equivalents	(2,504)	(2,435)	(1,717)
Net increase (decrease) in cash and cash equivalents	100,548	(295,957)	240,233
Cash and cash equivalents at beginning of fiscal year	541,896	642,444	346,487
Cash and cash equivalents at end of fiscal year	\$ 642,444	\$ 346,487	\$ 586,720
Supplemental disclosure of cash flow information			
Cash paid during the fiscal year for interest	\$ 33,511	\$ 32,397	\$ 36,276
Cash paid during the fiscal year for income taxes, net	\$ 9,603	\$ 10,679	\$ 11,396
Non-cash investing and financing activities			
Purchase of equipment in accounts payable	\$ 5,202	\$ 6,191	\$ 4,961
Fixed assets acquired under capital leases	\$ 6,736	\$ 2,538	\$ 10,424

The accompanying notes are an integral part of these consolidated financial statements.

CIENA CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) CIENA CORPORATION AND SIGNIFICANT ACCOUNTING POLICIES AND ESTIMATES

Description of Business

Ciena Corporation (“Ciena” or the “Company”) is 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. Ciena provides equipment, software and services that support the transport, switching, aggregation, service delivery and management of voice, video and data traffic on communications networks.

Ciena’s 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, Web-scale providers, governments, enterprises, research and education institutions, and other network operators across the globe. Ciena's products allow network operators to scale capacity, increase transmission speeds, allocate network traffic and deliver services to end users. Ciena's solutions also include network management and control software and network-level software applications that facilitate automation, software-defined programmability and efficient service delivery. To complement its hardware and software solutions, Ciena offers a broad range of network transformation solutions and related support services that help customers design, optimize, deploy, manage and maintain their network. Ciena’s principal executive offices are located at 7035 Ridge Road, Hanover, Maryland 21076.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Ciena and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Fiscal Year

Ciena has a 52 or 53 week fiscal year, which ends on the Saturday nearest to the last day of October in each year (November 3, 2012 , November 2, 2013 and November 1, 2014 for the periods reported). Fiscal 2013 and fiscal 2014 each consisted of a 52-week fiscal year and fiscal 2012 consisted of a 53-week fiscal year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31 .

Use of Estimates

The preparation of the financial statements and related disclosures in conformity with accounting principles generally accepted in the United States requires management to make estimates and judgments that affect the amounts reported in the consolidated financial statements and accompanying notes. Estimates are used for selling prices for multiple element arrangements, shared-based compensation, convertible notes payable valuations, bad debts, valuation of inventories and investments, recoverability of intangible assets, other long-lived assets, income taxes, warranty obligations, restructuring liabilities, derivatives, contingencies and litigation. Ciena bases its estimates on historical experience and assumptions that it believes are reasonable. Actual results may differ materially from management’s estimates.

Cash and Cash Equivalents

Ciena considers all highly liquid investments purchased with original maturities of three months or less to be cash equivalents. Any restricted cash collateralizing letters of credit is included in other current assets and other long-term assets depending upon the duration of the restriction.

Investments

Ciena's investments are classified as available-for-sale and are reported at fair value, with unrealized gains and losses recorded in accumulated other comprehensive income (loss). Ciena recognizes losses in the income statement when it determines that declines in the fair value of its investments below their cost basis are other-than-temporary. In determining whether a decline in fair value is other-than-temporary, Ciena considers various factors, including market price (when available), investment ratings, the financial condition and near-term prospects of the investee, the length of time and the extent to which the fair value has been less than Ciena's cost basis, and Ciena's intent and ability to hold the investment until maturity or for a period of time sufficient to allow for any anticipated recovery in market value. Ciena considers all marketable debt securities that it expects to convert to cash within one year or less to be short-term investments, with all others considered to be long-term investments.

Inventories

Inventories are stated at the lower of cost or market, with cost computed using standard cost, which approximates actual cost, on a first-in, first-out basis. Ciena records a provision for excess and obsolete inventory when an impairment has been identified.

Segment Reporting

Ciena's chief operating decision maker, its chief executive officer, evaluates the company's performance and allocates resources based on multiple factors, including measures of segment profit(loss). Operating segments are defined as components of an enterprise that engage in business activities that may earn revenue and incur expense, for which discrete financial information is available, and for which such information is evaluated regularly by the chief operating decision maker for purposes of allocating resources and assessing performance. Ciena considers the following to be its operating segments for reporting purposes: (i) Converged Packet Optical, (ii) Packet Networking, (iii) Optical Transport, and (iv) Software and Services. See Note 20 below.

Long-lived Assets

Long-lived assets include: equipment, furniture and fixtures; intangible assets; and maintenance spares. Ciena tests long-lived assets for impairment whenever triggering events or changes in circumstances indicate that the asset's carrying amount is not recoverable from its undiscounted cash flows. An impairment loss is measured as the amount by which the carrying amount of the asset or asset group exceeds its fair value. Ciena's long-lived assets are assigned to asset groups that represent the lowest level for which cash flows can be identified.

Equipment, Furniture and Fixtures and Internal Use Software

Equipment, furniture and fixtures are recorded at cost. Depreciation and amortization are computed using the straight-line method over useful lives of two to five years for equipment, furniture and fixtures and the shorter of useful life or lease term for leasehold improvements.

Qualifying internal use software and website development costs incurred during the application development stage, which consist primarily of outside services and purchased software license costs, are capitalized and amortized straight-line over the estimated useful lives of two to five years.

Intangible Assets

Ciena has recorded finite-lived intangible assets as a result of several acquisitions. Finite-lived intangible assets are carried at cost less accumulated amortization. Amortization is computed using the straight-line method over the expected economic lives of the respective assets, up to seven years, which approximates the use of intangible assets.

Maintenance Spares

Maintenance spares are recorded at cost. Spares usage cost is expensed ratably over four years.

Concentrations

Substantially all of Ciena's cash and cash equivalents are maintained at a small number of major U.S. financial institutions. The majority of Ciena's cash equivalents consist of money market funds. Deposits held with banks may exceed the amount of insurance provided on such deposits. Because these deposits generally may be redeemed upon demand, management believes that they bear minimal risk.

Historically, a significant percentage of Ciena's revenue has been concentrated among sales to a small number of large communications service providers. Consolidation among Ciena's customers has increased this concentration. Consequently, Ciena's accounts receivable are concentrated among these customers. See Note 20 below.

Additionally, Ciena's access to certain materials or components is dependent upon sole or limited source suppliers. The inability of any of these suppliers to fulfill Ciena's supply requirements, or significant changes in supply cost, could affect future results. Ciena relies on a small number of contract manufacturers to perform the majority of the manufacturing for its

products. If Ciena cannot effectively manage these manufacturers and forecast future demand, or if these manufacturers fail to deliver products or components on time, Ciena's business and results of operations may suffer.

Revenue Recognition

Ciena recognizes revenue when all of the following criteria are met: persuasive evidence of an arrangement exists; delivery has occurred or services have been rendered; the price to the buyer is fixed or determinable; and collectibility is reasonably assured. Customer purchase agreements and customer purchase orders are generally used to determine the existence of an arrangement. Shipping documents and evidence of customer acceptance, when applicable, are used to verify delivery or services rendered. Ciena assesses whether the price is fixed or determinable based on the payment terms associated with the transaction and whether the sales price is subject to refund or adjustment. Ciena assesses collectibility based primarily on the creditworthiness of the customer as determined by credit checks and analysis, as well as the customer's payment history. Revenue for maintenance services is deferred and recognized ratably over the period during which the services are performed. Shipping and handling fees billed to customers are included in revenue, with the associated expenses included in product cost of goods sold.

Ciena applies the percentage-of-completion method to long-term arrangements where it is required to undertake significant production, customization or modification engineering, and reasonable and reliable estimates of revenue and cost are available. Utilizing the percentage-of-completion method, Ciena recognizes revenue based on the ratio of actual costs incurred to date to total estimated costs expected to be incurred. In instances that do not meet the percentage-of-completion method criteria, recognition of revenue is deferred until there are no uncertainties regarding customer acceptance. Unbilled percentage- of-completion revenues recognized are included in accounts receivable, net. Billings in excess of revenues recognized on these contracts are recorded within deferred revenue. The percentage of revenue recognized using the percentage-of-completion method for the fiscal years ended October 31, 2012 , October 31, 2013 and October 31, 2014 were 1.0% , 4.5% and 4.0% , respectively.

Software revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred, the fee is fixed or determinable, and collectibility is probable. In instances where final acceptance criteria of the software are specified by the customer, revenue is deferred until there are no uncertainties regarding customer acceptance.

Ciena limits the amount of revenue recognition for delivered elements to the amount that is not contingent on the future delivery of products or services, future performance obligations or subject to customer-specified return or refund privileges.

Revenue for multiple element arrangements is allocated to each unit of accounting based on the relative selling price of each delivered element, with revenue recognized for each delivered element when the revenue recognition criteria are met. Ciena determines the selling price for each deliverable based upon the selling price hierarchy for multiple-deliverable arrangements. Under this hierarchy, Ciena uses vendor-specific objective evidence ("VSOE") of selling price, if it exists, or third party evidence ("TPE") of selling price if VSOE does not exist. If neither VSOE nor TPE of selling price exists for a deliverable, Ciena uses its best estimate of selling price ("BESP") for that deliverable. For multiple element software arrangements where VSOE of undelivered maintenance does not exist, revenue for the entire arrangement is recognized over the maintenance term.

VSOE, when determinable, is established based on Ciena's pricing and discounting practices for the specific product or service when sold separately. In determining whether VSOE exists, Ciena requires that a substantial majority of the selling prices for a product or service fall within a reasonably narrow pricing range. Ciena has been unable to establish TPE of selling price because its go-to-market strategy differs from that of others in its markets, and the extent of customization and differentiated features and functions varies among comparable products or services from its peers. Ciena determines BESP based upon management-approved pricing guidelines, which consider multiple factors including the type of product or service, gross margin objectives, competitive and market conditions, and the go-to-market strategy, all of which can affect pricing practices.

Warranty Accruals

Ciena provides for the estimated costs to fulfill customer warranty obligations upon recognition of the related revenue. Estimated warranty costs include estimates for material costs, technical support labor costs and associated overhead. Warranty is included in cost of goods sold and is determined based upon actual warranty cost experience, estimates of component failure rates and management's industry experience. Ciena's sales contracts do not permit the right of return of the product by the customer after the product has been accepted.

Table of Contents

Accounts Receivable, Net

Ciena's allowance for doubtful accounts is based on its assessment, on a specific identification basis, of the collectibility of customer accounts. Ciena performs ongoing credit evaluations of its customers and generally has not required collateral or other forms of security from its customers. In determining the appropriate balance for Ciena's allowance for doubtful accounts, management considers each individual customer account receivable in order to determine collectibility. In doing so, management considers creditworthiness, payment history, account activity and communication with the customer. If a customer's financial condition changes, Ciena may be required to record an allowance for doubtful accounts for that customer, which could negatively affect its results of operations.

Research and Development

Ciena charges all research and development costs to expense as incurred. Types of expense incurred in research and development include employee compensation, cost of prototype equipment, consulting and third party services, depreciation, facility costs and information technology.

Government Grants

Ciena accounts for proceeds from government grants as a reduction of operating expense when there is reasonable assurance that Ciena has complied with the conditions attached to the grant and that the grant proceeds will be received. Grant benefits are recorded to the line item in the Consolidated Statement of Operations to which the grant activity relates. See Note 22 below.

Advertising Costs

Ciena expenses all advertising costs as incurred.

Legal Costs

Ciena expenses legal costs associated with litigation defense as incurred.

Share-Based Compensation Expense

Ciena measures and recognizes compensation expense for share-based awards based on estimated fair values on the date of grant. Ciena estimates the fair value of each option-based award on the date of grant using the Black-Scholes option-pricing model. This model is affected by Ciena's stock price as well as estimates regarding a number of variables, including expected stock price volatility over the expected term of the award and projected employee stock option exercise behaviors. Ciena estimates the fair value of each restricted stock unit award based on the fair value of the underlying common stock on the date of grant. In each case, Ciena only recognizes expense in its Consolidated Statement of Operations for those stock options or restricted stock units that are expected ultimately to vest. Ciena recognizes the estimated fair value of performance-based awards, net of estimated forfeitures, as share-based expense over the performance period, using graded vesting, which considers each performance period or tranche separately, based upon its determination of whether it is probable that the performance targets will be achieved. At each reporting period, Ciena reassesses the probability of achieving the performance targets and the performance period required to meet those targets and the expense is adjusted accordingly. Ciena uses the straight-line method to record expense for share-based awards with only service-based vesting. See Note 19 below.

Income Taxes

Ciena accounts for income taxes using an asset and liability approach that recognizes deferred tax assets and liabilities for the expected future tax consequences attributable to differences between the carrying amounts of assets and liabilities for financial reporting purposes and their respective tax bases, and for operating loss and tax credit carryforwards. In estimating future tax consequences, Ciena considers all expected future events other than the enactment of changes in tax laws or rates. Valuation allowances are provided if, based upon the weight of the available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

In the ordinary course of business, transactions occur for which the ultimate outcome may be uncertain. In addition, tax authorities periodically audit Ciena's income tax returns. These audits examine significant tax filing positions, including the timing and amounts of deductions and the allocation of income tax expenses among tax jurisdictions. Ciena is currently under audit in India for 2008 through 2013 and in Canada for 2010 through 2012. Management does not expect the outcome of these

audits to have a material adverse effect on Ciena's consolidated financial position, results of operations or cash flows. Ciena's major tax jurisdictions and the earliest open tax years are as follows: United States (2011), United Kingdom (2012), Canada (2009) and India (2008). Limited adjustments can be made to Federal U.S. tax returns in earlier years in order to reduce net operating loss carryforwards. Ciena classifies interest and penalties related to uncertain tax positions as a component of income tax expense.

Ciena has not provided for U.S. deferred income taxes on the cumulative unremitted earnings of its non-U.S. affiliates, as it plans to indefinitely reinvest cumulative unremitted foreign earnings outside the U.S., and it is not practicable to determine the unrecognized deferred income taxes. These cumulative unremitted foreign earnings relate to ongoing operations in foreign jurisdictions and are required to fund foreign operations, capital expenditures and any expansion requirements.

Ciena recognizes windfall tax benefits associated with the exercise of stock options or release of restricted stock units directly to stockholders' equity only when realized. A windfall tax benefit occurs when the actual tax benefit realized by Ciena upon an employee's disposition of a share-based award exceeds the deferred tax asset, if any, associated with the award that Ciena had recorded. When assessing whether a tax benefit relating to share-based compensation has been realized, Ciena follows the "with-and-without" method. Under the with-and-without method, the windfall is considered realized and recognized for financial statement purposes only when an incremental benefit is provided after considering all other tax benefits including Ciena's net operating losses. The with-and-without method results in the windfall from share-based compensation awards always being effectively the last tax benefit to be considered. Consequently, the windfall attributable to share-based compensation will not be considered realized in instances where Ciena's net operating loss carryover (that is unrelated to windfalls) is sufficient to offset the current year's taxable income before considering the effects of current-year windfalls.

Loss Contingencies

Ciena is subject to the possibility of various losses arising in the ordinary course of business. These may relate to disputes, litigation and other legal actions. Ciena considers the likelihood of loss or the incurrence of a liability, as well as Ciena's ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Ciena regularly evaluates current information available to it in order to determine whether any accruals should be adjusted and whether new accruals are required.

Fair Value of Financial Instruments

The carrying value of Ciena's cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximates fair market value due to the relatively short period of time to maturity. For information related to the fair value of Ciena's convertible notes and term loan, see Note 14 below.

Fair value for the measurement of financial assets and liabilities is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. Ciena utilizes a valuation hierarchy for disclosure of the inputs for fair value measurement. This hierarchy prioritizes the inputs into three broad levels as follows:

- Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities;
- Level 2 inputs are quoted prices for identical or similar assets or liabilities in less active markets or model-derived valuations in which significant inputs are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument; and
- Level 3 inputs are unobservable inputs based on Ciena's assumptions used to measure assets and liabilities at fair value.

By distinguishing between inputs that are observable in the marketplace, and therefore more objective, and those that are unobservable and therefore more subjective, the hierarchy is designed to indicate the relative reliability of the fair value measurements. A financial asset's or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

Restructuring

From time to time, Ciena takes actions to better align its workforce, facilities and operating costs with perceived market opportunities, business strategies and changes in market and business conditions. Ciena recognizes a liability for the cost associated with an exit or disposal activity in the period in which the liability is incurred, except for one-time employee termination benefits related to a service period of more than 60 days, which are accrued over the service period. See Note 2 below.

Foreign Currency

Certain of Ciena's foreign branch offices and subsidiaries use the U.S. dollar as their functional currency because Ciena, as the U.S. parent entity, exclusively funds the operations of these branch offices and subsidiaries. For those subsidiaries using the local currency as their functional currency, assets and liabilities are translated at exchange rates in effect at the balance sheet date, and the statement of operations is translated at a monthly average rate. Resulting translation adjustments are recorded directly to a separate component of stockholders' equity. Where the monetary assets and liabilities are transacted in a currency other than the entity's functional currency, re-measurement adjustments are recorded in interest and other income (loss), net on the Consolidated Statement of Operations. See Note 3 below.

Derivatives

Ciena's 4.0% convertible senior notes due March 15, 2015 (the "2015 Notes") include a redemption feature that is accounted for as a separate embedded derivative. The embedded redemption feature is recorded at fair value on a recurring basis, and these changes are included in interest and other income (loss), net on the Consolidated Statement of Operations. See Note 3 below.

From time to time, Ciena uses foreign currency forward contracts to reduce variability in certain forecasted non-U.S. dollar denominated cash flows. Generally, these derivatives have maturities of 12 months or less. During fiscal 2014, Ciena also entered into interest rate hedge arrangements to reduce variability in certain forecasted interest expense associated with its Term Loan. All of these derivatives are designated as cash flow hedges. At the inception of the cash flow hedge, and on an ongoing basis, Ciena assesses whether the derivative has been effective in offsetting changes in cash flows attributable to the hedged risk during the hedging period. The effective portion of the derivative's net gain or loss is initially reported as a component of accumulated other comprehensive income (loss), and upon occurrence of the forecasted transaction, is subsequently reclassified to the line item in the Consolidated Statement of Operations to which the hedged transaction relates. Any net gain or loss associated with the ineffectiveness of the hedging instrument is reported in interest and other income (loss), net. To date, no ineffectiveness has occurred.

From time to time, Ciena uses foreign currency forward contracts to hedge certain balance sheet exposures. These forward contracts are not designated as hedges for accounting purposes, and any net gain or loss associated with these derivatives is reported in interest and other income (loss), net on the Consolidated Statement of Operations.

Ciena records derivative instruments in the Consolidated Statements of Cash Flows within operating, investing, or financing activities consistent with the cash flows of the hedged items.

See Notes 5 and 12 below.

Computation of Net Income (Loss) per Share

Ciena calculates basic earnings per share ("EPS") by dividing earnings attributable to common stock by the weighted-average number of common shares outstanding for the period. Diluted EPS includes other potential dilutive shares that would be outstanding if securities or other contracts to issue common stock were exercised or converted into common stock. Ciena uses a dual presentation of basic and diluted EPS on the face of its income statement. A reconciliation of the numerator and denominator used for the basic and diluted EPS computations is set forth in Note 16 below.

Software Development Costs

Ciena develops software for sale to its customers. GAAP requires the capitalization of certain software development costs that are incurred subsequent to the date technological feasibility is established and prior to the date the product is generally available for sale. The capitalized cost is then amortized straight-line over the estimated life of the product. Ciena defines technological feasibility as being attained at the time a working model is completed. To date, the period between Ciena

achieving technological feasibility and the general availability of such software has been short, and software development costs qualifying for capitalization have been insignificant. Accordingly, Ciena has not capitalized any software development costs.

Newly Issued Accounting Standards -Effective

In February 2013, the Financial Accounting Standards Board ("FASB") issued an accounting standard update to require reclassification adjustments from other comprehensive income to be presented either in the financial statements or in the notes to the financial statements. This accounting standard update was effective for Ciena beginning in the first quarter of fiscal 2014. As a result of the application of this accounting standard update, Ciena has provided additional disclosures in Note 13 below.

Newly Issued Accounting Standards - Not Yet Effective

In May 2014, FASB issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which provides guidance for revenue recognition. This ASU affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of non-financial assets. This ASU will supersede the revenue recognition requirements in Topic 605, Revenue Recognition, and most industry-specific guidance. This ASU also supersedes some cost guidance included in Subtopic 605-35, Revenue Recognition-Construction-Type and Production-Type Contracts. The standard will be effective for Ciena beginning in the first quarter of fiscal 2018. Ciena is currently evaluating the impact of the adoption of this accounting standard update on its Consolidated Financial Statements.

In August 2014, FASB issued ASU No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*. ASU 2014-15 requires management to evaluate, at each annual or interim reporting period, whether there are conditions or events that exist that raise substantial doubt about an entity's ability to continue as a going concern within one year after the date the financial statements are issued and provide related disclosures. The standard will be effective for Ciena beginning in the first quarter of fiscal 2018. The adoption of this accounting standard update is not expected to have a material effect on the Ciena's Consolidated Financial Statements or disclosures.

(2) RESTRUCTURING COSTS

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

	Workforce reduction	Consolidation of excess facilities	Total
Balance at October 31, 2011	\$ 160	\$ 3,293	\$ 3,453
Additional liability recorded	5,484 (a)	2,370 (a)	7,854
Cash payments	(4,195)	(2,063)	(6,258)
Balance at October 31, 2012	1,449	3,600	5,049
Additional liability recorded	5,041 (b)	2,128 (b)	7,169
Non-cash disposal	—	(747)	(747)
Cash payments	(6,410)	(3,045)	(9,455)
Balance at October 31, 2013	80	1,936	2,016
Additional liability recorded	685 (c)	9	694
Adjustment to previous estimates	—	(345)	(345)
Cash payments	(584)	(466)	(1,050)
Balance at October 31, 2014	\$ 181	\$ 1,134	\$ 1,315
Current restructuring liabilities	\$ 181	\$ 498	\$ 679
Non-current restructuring liabilities	\$ —	\$ 636	\$ 636

(a) During fiscal 2012, Ciena recorded a charge of \$5.5 million of severance and other employee-related costs associated with a workforce reduction of approximately 135 employees. Ciena also recorded charges of \$2.4 million related to its consolidation of several facilities in the Linthicum, Maryland area.

- (b) During fiscal 2013, Ciena recorded a charge of \$5.0 million of severance and other employee-related costs associated with a workforce reduction of approximately 100 employees. Ciena also recorded charges of \$2.1 million related to its consolidation of several facilities primarily in the Linthicum, Maryland area.
- (c) During fiscal 2014, Ciena recorded a charge of \$0.7 million of severance and other employee-related costs associated with a workforce reduction of approximately 25 employees.

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

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

	October 31,		
	2012	2013	2014
Interest income	776	550	407
Change in fair value of embedded derivative	(6,600)	2,950	(2,740)
Gain (loss) on non-hedge designated foreign currency forward contracts	—	296	(5,757)
Foreign currency exchange losses	(7,758)	(8,168)	(15,663)
Other	(1,618)	(1,372)	(1,509)
Interest and other income (loss), net	<u>(15,200)</u>	<u>(5,744)</u>	<u>(25,262)</u>

Ciena Corporation, as the U.S. parent entity, uses the U.S. dollar as its functional currency; however, some of its foreign branch offices and subsidiaries use the local currency as their functional currency. During fiscal 2012, fiscal 2013 and fiscal 2014, Ciena recorded \$7.8 million, \$8.2 million and \$15.7 million in foreign currency exchange losses, respectively, as a result of monetary assets and liabilities that were transacted in a currency other than the entity's functional currency, and the re-measurement adjustments were recorded in interest and other income (loss), net on the Consolidated Statement of Operations. From time to time, Ciena uses foreign currency forwards to hedge these balance sheet exposures. These forwards are not designated as hedges for accounting purposes and any net gain or loss associated with these derivatives is reported in interest and other income (loss), net. During fiscal 2014, Ciena recorded losses of \$5.8 million from non-hedge designated foreign currency forward contracts.

(4) SHORT-TERM AND LONG-TERM INVESTMENTS

As of October 31, 2013, investments are comprised of the following (in thousands):

	October 31, 2013			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations:				
Included in short-term investments	\$ 99,974	\$ 11	\$ —	\$ 99,985
Included in long-term investments	14,996	35	—	15,031
	<u>\$ 114,970</u>	<u>\$ 46</u>	<u>\$ —</u>	<u>\$ 115,016</u>
Commercial paper:				
Included in short-term investments	\$ 24,994	\$ —	\$ —	\$ 24,994
	<u>\$ 24,994</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 24,994</u>

As of October 31, 2014, investments are comprised of the following (in thousands):

	October 31, 2014			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government obligations:				
Included in short-term investments	\$ 110,182	\$ 29	\$ —	\$ 110,211
Included in long-term investments	50,016	41	—	50,057
	<u>\$ 160,198</u>	<u>\$ 70</u>	<u>\$ —</u>	<u>\$ 160,268</u>
Commercial paper:				
Included in short-term investments	\$ 29,994	\$ —	\$ —	\$ 29,994
	<u>\$ 29,994</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 29,994</u>

The following table summarizes the legal maturities of debt investments at October 31, 2014 :

	October 31, 2014	
	Amortized Cost	Estimated Fair Value
Less than one year	\$ 140,176	\$ 140,205
Due in 1-2 years	50,016	50,057
	<u>\$ 190,192</u>	<u>\$ 190,262</u>

(5) FAIR VALUE MEASUREMENTS

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

	October 31, 2013			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	\$ 254,330	\$ —	\$ —	\$ 254,330
U.S. government obligations	—	115,016	—	115,016
Commercial paper	—	44,991	—	44,991
Embedded redemption feature	—	—	2,740	2,740
Total assets measured at fair value	<u>\$ 254,330</u>	<u>\$ 160,007</u>	<u>\$ 2,740</u>	<u>\$ 417,077</u>
Liabilities:				
Foreign currency forward contracts	\$ —	\$ 442	\$ —	\$ 442
Total liabilities measured at fair value	<u>\$ —</u>	<u>\$ 442</u>	<u>\$ —</u>	<u>\$ 442</u>

	October 31, 2014			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	\$ 440,013	\$ —	\$ —	\$ 440,013
U.S. government obligations	—	160,268	—	160,268
Commercial paper	—	89,989	—	89,989
Foreign currency forward contracts	\$ —	\$ 1,561	\$ —	\$ 1,561
Total assets measured at fair value	\$ 440,013	\$ 251,818	\$ —	\$ 691,831
Liabilities:				
Foreign currency forward contracts	\$ —	\$ 200	\$ —	\$ 200
Forward interest rate swap contract	—	2,083	—	2,083
Total liabilities measured at fair value	\$ —	\$ 2,283	\$ —	\$ 2,283

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

	October 31, 2013			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	\$ 252,241	\$ 19,997	\$ —	\$ 272,238
Short-term investments	—	124,979	—	124,979
Prepaid expenses and other	52	—	—	52
Long-term investments	—	15,031	—	15,031
Other long-term assets	2,037	—	2,740	4,777
Total assets measured at fair value	\$ 254,330	\$ 160,007	\$ 2,740	\$ 417,077
Liabilities:				
Accrued liabilities	\$ —	\$ 442	\$ —	\$ 442
Total liabilities measured at fair value	\$ —	\$ 442	\$ —	\$ 442

	October 31, 2014			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	\$ 440,013	\$ 59,995	\$ —	\$ 500,008
Short-term investments	—	140,205	—	140,205
Prepaid expenses and other	—	1,561	—	1,561
Long-term investments	—	50,057	—	50,057
Total assets measured at fair value	\$ 440,013	\$ 251,818	\$ —	\$ 691,831
Liabilities:				
Accrued liabilities	\$ —	\$ 200	\$ —	\$ 200
Other long-term obligations	—	2,083	—	2,083
Total liabilities measured at fair value	\$ —	\$ 2,283	\$ —	\$ 2,283

Ciena's Level 3 assets that were included in other long-term assets reflect an embedded redemption feature contained within the 2015 Notes. The embedded redemption feature is bifurcated from the 2015 Notes using the "with-and-without" approach. As such, the total value of the embedded redemption feature is calculated as the difference between the value of the

Table of Contents

2015 Notes (the “Hybrid Instrument”) and the value of an identical instrument without the embedded redemption feature (the “Host Instrument”). Both the Host Instrument and the Hybrid Instrument are valued using a modified binomial model. The modified binomial model utilizes a risk free interest rate, an implied volatility of Ciena’s stock, the recovery rates of bonds and the implied default intensity of the 2015 Notes. The value of this feature was immaterial at October 31, 2014.

As of the dates indicated, the following table sets forth, in thousands, the reconciliation of changes in Level 3 assets recorded at fair value:

	Level 3
Balance at October 31, 2013	\$ 2,740
Issuances	—
Settlements	—
Changes in unrealized loss	(2,740)
Transfers into Level 3	—
Transfers out of Level 3	—
Balance at October 31, 2014	<u>\$ —</u>

(6) ACCOUNTS RECEIVABLE

As of October 31, 2013, two customers each accounted for greater than 10% of net accounts receivable, and in the aggregate accounted for 22.5% of net accounts receivable. As of October 31, 2014, there were no customers that accounted for greater than 10% of net accounts receivable. Ciena has not historically experienced a significant amount of bad debt expense. The following table summarizes the activity in Ciena’s allowance for doubtful accounts for the fiscal years indicated (in thousands):

Year ended October 31,	Balance at beginning of fiscal year	Provisions	Net Deductions	Balance at end of fiscal year
2012	\$ 701	\$ 1,647	\$ 848	\$ 1,500
2013	\$ 1,500	\$ 2,339	\$ 1,884	\$ 1,955
2014	\$ 1,955	\$ 2,761	\$ 2,633	\$ 2,083

(7) INVENTORIES

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

	October 31,	
	2013	2014
Raw materials	\$ 53,274	\$ 64,853
Work-in-process	7,773	8,371
Finished goods	153,855	165,799
Deferred cost of goods sold	75,764	75,763
	<u>290,666</u>	<u>314,786</u>
Provision for excess and obsolescence	(41,563)	(60,126)
	<u>\$ 249,103</u>	<u>\$ 254,660</u>

Ciena writes down its inventory for estimated obsolescence or unmarketable inventory by an amount equal to the difference between the cost of inventory and the estimated net realizable value based on assumptions about future demand and market conditions. During fiscal 2013 and fiscal 2014, recorded provisions for inventory reserves were primarily related to engineering design changes and the discontinuance of certain parts and components used in the manufacture of our Optical Transport

products, including our Corestream® Agility Optical Transport platform, and Converged Packet Optical products. Deductions from the provision for excess and obsolete inventory relate to disposal activities.

The following table summarizes the activity in Ciena’s reserve for excess and obsolete inventory for the fiscal years indicated (in thousands):

Year ended October 31,	Balance at beginning of fiscal year	Provisions	Disposals	Balance at end of fiscal year
2012	\$ 31,771	\$ 23,438	\$ 15,199	\$ 40,010
2013	\$ 40,010	\$ 19,938	\$ 18,385	\$ 41,563
2014	\$ 41,563	\$ 32,332	\$ 13,769	\$ 60,126

(8) PREPAID EXPENSES AND OTHER

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

	October 31,	
	2013	2014
Prepaid VAT and other taxes	\$ 101,072	\$ 86,464
Deferred deployment expense	23,190	27,991
Product demonstration equipment, net	33,382	42,385
Prepaid expenses	16,963	23,539
Other non-trade receivables	12,048	10,683
Derivative assets	—	1,562
	<u>\$ 186,655</u>	<u>\$ 192,624</u>

Depreciation of product demonstration equipment was \$7.8 million , \$7.4 million and \$9.0 million for fiscal 2012 , 2013 and 2014 , respectively.

(9) EQUIPMENT, FURNITURE AND FIXTURES

As of the dates indicated, equipment, furniture and fixtures are comprised of the following (in thousands):

	October 31,	
	2013	2014
Equipment, furniture and fixtures	\$ 364,574	\$ 383,059
Leasehold improvements	46,247	46,354
	410,821	429,413
Accumulated depreciation and amortization	(291,092)	(302,781)
	<u>\$ 119,729</u>	<u>\$ 126,632</u>

During fiscal 2012 , fiscal 2013 and fiscal 2014 , Ciena recorded depreciation of equipment, furniture and fixtures, and amortization of leasehold improvements of \$51.3 million , \$48.3 million and \$46.6 million , respectively.

(10) INTANGIBLE ASSETS

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

	October 31,					
	2013			2014		
	Gross Intangible	Accumulated Amortization	Net Intangible	Gross Intangible	Accumulated Amortization	Net Intangible
Developed technology	\$ 417,833	\$ (321,645)	\$ 96,188	\$ 417,833	\$ (351,929)	\$ 65,904
Patents and licenses	46,538	(45,744)	794	46,538	(45,908)	630
Customer relationships, covenants not to compete, outstanding purchase orders and contracts	323,573	(234,727)	88,846	323,573	(261,430)	62,143
Total intangible assets	<u>\$ 787,944</u>	<u>\$ (602,116)</u>	<u>\$ 185,828</u>	<u>\$ 787,944</u>	<u>\$ (659,267)</u>	<u>\$ 128,677</u>

The aggregate amortization expense of intangible assets was \$74.5 million , \$71.3 million and \$57.2 million for fiscal 2012 , fiscal 2013 and fiscal 2014 , respectively. Expected future amortization of intangible assets for the fiscal years indicated is as follows (in thousands):

Year Ended October 31,	
2015	\$ 52,879
2016	52,879
2017	22,783
2018	136
2019	—
	<u>\$ 128,677</u>

(11) OTHER BALANCE SHEET DETAILS

As of the dates indicated, other long-term assets are comprised of the following (in thousands):

	October 31,	
	2013	2014
Maintenance spares inventory, net	\$ 61,305	\$ 54,101
Deferred debt issuance costs, net	15,677	15,160
Restricted cash	2,053	45
Embedded redemption feature	2,740	—
Other	4,605	4,770
	<u>\$ 86,380</u>	<u>\$ 74,076</u>

Deferred debt issuance costs are amortized using the straight line method which approximates the effect of the effective interest rate method through the maturity of the related debt. Amortization of debt issuance costs related to our convertible notes payable, term loan (described in Note 14 below) and our ABL Credit Facility (described in Note 15 below), which is included in interest expense, was \$5.3 million , \$5.4 million and \$4.8 million for fiscal 2012 , fiscal 2013 and fiscal 2014 , respectively.

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

	October 31,	
	2013	2014
Compensation, payroll related tax and benefits	98,770	82,207
Warranty	56,303	55,997
Vacation	32,118	35,126
Capital lease obligations	3,079	7,788
Interest payable	6,186	6,409
Other	75,200	89,081
	<u>\$ 271,656</u>	<u>\$ 276,608</u>

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

Year ended October 31,	Beginning Balance	Provisions	Settlements	Ending Balance
2012	\$ 47,282	\$ 33,418	\$ 25,568	\$ 55,132
2013	\$ 55,132	\$ 24,558	\$ 23,387	\$ 56,303
2014	\$ 56,303	\$ 22,129	\$ 22,435	\$ 55,997

The increase in fiscal 2012 warranty provision was driven primarily by sales that included longer-term support obligations and technical support requirements from additional geographies. The decreases in both fiscal 2013 and fiscal 2014 warranty provisions were primarily due to lower failure rates and reduced costs due to efficiencies.

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

	October 31,	
	2013	2014
Products	\$ 36,671	\$ 50,457
Services	75,499	95,161
	112,170	145,618
Less current portion	(88,550)	(104,688)
Long-term deferred revenue	<u>\$ 23,620</u>	<u>\$ 40,930</u>

As of the dates indicated, other long-term obligations are comprised of the following (in thousands):

	October 31,	
	2013	2014
Income tax liability	\$ 9,083	\$ 14,342
Deferred tenant allowance	11,775	10,839
Straight-line rent	4,127	5,174
Capital lease obligations	1,983	4,589
Interest rate swap derivative	—	2,083
Other	7,785	8,363
	<u>\$ 34,753</u>	<u>\$ 45,390</u>

(12) DERIVATIVE INSTRUMENTS

Foreign Currency Derivatives

As of October 31, 2014 and 2013, Ciena had forward contracts to reduce the variability in its Canadian Dollar and Indian Rupee denominated expense, which principally relates to research and development activities. The notional amount of these contracts was approximately \$51.5 million and \$22.4 million as of October 31, 2014 and October 31, 2013, respectively. These foreign exchange contracts have maturities of 12 months or less. These derivative contracts have been designated as cash flow hedges.

During fiscal 2014 and fiscal 2013, in order to hedge certain balance sheet exposures, Ciena entered into forward contracts to sell Brazilian Real and buy an equivalent U.S. Dollar amount. During fiscal 2014, in order to hedge certain balance sheet exposures, Ciena entered into forward contracts to sell U.S. Dollars and buy an equivalent amount of Canadian Dollars. The notional principal of these contracts was approximately \$194.5 million and \$29.5 million as of October 31, 2014 and October 31, 2013. These foreign exchange contracts have maturities of 12 months or less. These derivative contracts have not been designated as hedges.

Interest Rate Derivatives

During fiscal 2014, Ciena entered into interest rate cap arrangements to limit interest paid under the Term Loan to a maximum of 0.75% plus a spread of 300 basis points through July 2015. The total notional amount of interest rate caps currently outstanding as of October 31, 2014 is \$249.4 million.

Also in fiscal 2014, Ciena entered into floating interest rate to fixed interest rate swap arrangements ("interest rate swap") that fix the interest rate under the Term Loan at 5.004%, for the period commencing on July 20, 2015 through July 19, 2018. The total notional amount of these derivatives as of October 31, 2014 is \$247.5 million.

Ciena expects the variable rate payments to be received under the terms of the interest rate cap and the interest rate swap to exactly offset the forecasted variable rate payments on the equivalent notional amounts of the Term Loan. These derivative contracts have been designated as cash flow hedges.

Other information regarding Ciena's derivatives is immaterial for separate financial statement presentation. See Note 3 and Note 5 above.

(13) ACCUMULATED OTHER COMPREHENSIVE INCOME

The following table summarizes the changes in accumulated balances of other comprehensive income (loss):

	Unrealized Gain/(Loss) on Marketable Securities	Unrealized Gain/(Loss) on Derivative Instruments	Cumulative Foreign Currency Translation Adjustment	Total
Balance at October 31, 2011	210	—	(179)	31
Other comprehensive income(loss) before reclassifications	(166)	812	(3,268)	(2,622)
Amounts reclassified from AOCI	—	(763)	—	(763)
Balance at October 31, 2012	44	49	(3,447)	(3,354)
Other comprehensive income(loss) before reclassifications	(14)	(1,431)	(4,096)	(5,541)
Amounts reclassified from AOCI	—	1,121	—	1,121
Balance at October 31, 2013	30	(261)	(7,543)	(7,774)
Other comprehensive income(loss) before reclassifications	41	(3,348)	(4,940)	(8,247)
Amounts reclassified from AOCI	—	1,353	—	1,353
Balance at October 31, 2014	71	(2,256)	(12,483)	(14,668)

All amounts reclassified from accumulated other comprehensive income were related to settlement (gains)/losses on foreign currency forward contracts designated as cash flow hedges. These reclassifications impacted "research and development" on the Consolidated Statements of Operations.

(14) SHORT-TERM AND LONG-TERM DEBT*Term Loan*

On July 15, 2014, Ciena entered into a Credit Agreement (the "Term Loan Credit Agreement") which provides for senior secured term loans in an aggregate principal amount of \$250 million (the "Term Loan"). Ciena received proceeds from the Term Loan, net of original issue discount and debt issuance costs, of approximately \$246 million .

The Term Loan bears interest at a rate equal to LIBOR (subject to a floor of 0.75%) plus an applicable margin of 3.00% and matures on July 15, 2019 . The Term Loan Credit Agreement requires Ciena to make quarterly installment payments in aggregate amounts equal to 0.25% of the original principal amount of the Term Loan, with the balance of the Term Loan payable at maturity. The Term Loan Credit Agreement requires mandatory prepayments on the occurrence of certain customary events and, when the total secured net leverage ratio (as defined in the Term Loan Credit Agreement) is in excess of 2.50 to 1.00 , the Term Loan Credit Agreement requires a mandatory prepayment of 50% of excess annual cash flow (as defined in the Term Loan Credit Agreement).

The Term Loan Credit Agreement contains customary covenants that limit, absent lender approval, the ability of Ciena to, among other things, incur additional debt, create liens and encumbrances, pay cash dividends, enter into certain acquisition transactions or transactions with affiliates, merge, dissolve, repay certain indebtedness, change the nature of Ciena's business, make investments or dispose of assets.

The Term Loan Credit Agreement contains customary events of default including, among other things, failure to pay obligations when due, initiation of bankruptcy or insolvency proceedings, defaults on certain other indebtedness, change of control, incurrence of certain material judgments, violation of affirmative and negative covenants, and breaches of representations and warranties set forth in the Term Loan Credit Agreement. Upon an event of default, the administrative agent may, subject to various customary cure rights, require the immediate payment of all amounts outstanding and foreclose on collateral.

In connection with Ciena entering into the Term Loan Credit Agreement, Ciena and certain of its subsidiaries entered into a guaranty, a security agreement and a pledge agreement, each on customary terms. The Term Loan is secured by (i) second-priority security interests in the ABL Priority Collateral (as defined in Note 15 below), and (ii) first-priority security interests in substantially all other tangible and intangible assets including equipment, intercompany notes, intellectual property and material owned real property (the "Term Loan Priority Collateral").

The principal balance, unamortized discount and net carrying amount of the Term Loan was as follows as of October 31, 2014 :

	Principal Balance	Unamortized Discount	Net Carrying Amount
Term Loan Payable due July 15, 2019	\$ 249,375	\$ (1,173)	\$ 248,202
	<u>\$ 249,375</u>	<u>\$ (1,173)</u>	<u>\$ 248,202</u>

The following table sets forth, in thousands, the carrying value and the estimated fair value of the Term Loan:

	October 31, 2014	
	Carrying Value	Fair Value ⁽²⁾
Term Loan Payable due July 15, 2019 ⁽¹⁾	\$ 248,202	\$ 247,193
	<u>\$ 248,202</u>	<u>\$ 247,193</u>

(1) Includes unamortized bond discount.

(2) The term loan was categorized as Level 2 in the fair value hierarchy. Ciena estimated the fair value of its term loan using a market approach based upon observable inputs, such as current market transactions involving this security.

Outstanding Convertible Notes Payable

Ciena has four issuances of convertible notes payable outstanding. The notes are senior unsecured obligations of Ciena and rank equally with all of Ciena's other existing and future senior unsecured debt. The indentures governing Ciena's notes provide for customary events of default which include (subject in certain cases to customary grace and cure periods), among others, the following: nonpayment of principal or interest; breach of covenants or other agreements in the indenture; defaults in or failure to pay certain other indebtedness; and certain events of bankruptcy or insolvency. Generally, if an event of default occurs and is continuing, the trustee or the holders of at least 25% in aggregate principal amount of the notes may declare the principal of, accrued interest on, and premium, if any, on all the notes immediately due and payable. Under the indentures, if Ciena undergoes a "fundamental change" (as that term is defined in the indenture governing the notes to include certain change in control transactions), holders of notes will have the right, subject to certain exemptions, to require Ciena to purchase for cash any or all of their notes at a price equal to the principal amount, plus accrued interest. If the holder elects to convert his or her notes in connection with a specified fundamental change Ciena will be required, in certain circumstances, to increase the applicable conversion rate, depending on the price paid per share for Ciena common stock and the effective date of the fundamental change transaction.

4.0% Convertible Senior Notes, due March 15, 2015

On March 15, 2010, Ciena completed a private placement of 4.0% convertible senior notes due March 15, 2015, in aggregate principal amount of \$375.0 million . Interest is payable on the notes on March 15 and September 15 of each year, beginning on September 15, 2010.

On December 27, 2012, Ciena issued \$187.5 million in aggregate principal amount of 4.0% Convertible Senior Notes due 2020 (the "2020 Notes") in separate private offerings in exchange for \$187.5 million in aggregate principal amount of the then outstanding 2015 Notes (the "Exchange Transactions"). The Exchange Transactions resulted in the retirement of outstanding 2015 Notes with a carrying value of \$187.9 million , the write-off of unamortized debt issuance costs of \$2.3 million , and settlement of \$0.6 million relating to the redemption feature on the 2015 Notes accounted for as a separate embedded derivative. The 2020 Notes offered in the Exchange Transactions had a fair value of \$213.6 million , which resulted in a loss on extinguishment of debt of \$28.6 million in the first quarter of fiscal 2013. Ciena does not expect the Exchange Transactions to affect its taxes from continuing operations, as Ciena continues to provide a valuation allowance against its deferred tax assets.

At the election of the holder, the notes may be converted prior to maturity into shares of Ciena common stock at the initial conversion rate of 49.0557 shares per \$1,000 in principal amount, which is equivalent to an initial conversion price of approximately \$20.38 per share. The notes may be redeemed by Ciena on or after March 15, 2013 if the closing sale price of Ciena's common stock for at least 20 trading days in any 30 consecutive trading day period ending on the date one day prior to the date of the notice of redemption exceeds 150% of the conversion price. Ciena may redeem the notes, in whole or in part, at a redemption price in cash equal to the principal amount to be redeemed, plus accrued and unpaid interest, including any additional interest to, but excluding, the redemption date, plus a make-whole premium payment. The "make whole premium" payment will be made in cash and equal the present value of the remaining interest payments, to maturity, computed using a discount rate equal to 2.75% . The make-whole premium is paid to holders whether or not they convert the notes following Ciena's issuance of a redemption notice. For accounting purposes, this redemption feature is an embedded derivative that is not clearly and closely related to the notes. Consequently, it was initially bifurcated from the indenture and separately recorded at its fair value as an asset with subsequent changes in fair value recorded through earnings. As of October 31, 2014 , the fair value of the embedded redemption feature was \$0.0 million . A reduction in the fair value of the embedded redemption feature in the amount of \$2.7 million is reflected as interest and other income (loss), net in the Consolidated Statement of Operations during fiscal 2014 .

The net proceeds from the original offering of the notes were \$364.3 million after deducting the placement agents' fees and other fees and expenses. Ciena used \$243.8 million of this amount to fund its payment election to replace its contractual obligation to issue convertible notes to Nortel as part of the aggregate purchase price for the acquisition of the MEN Business. The remaining proceeds were used to reduce the cash on hand required to fund the aggregate purchase price of the MEN Business.

0.875% Convertible Senior Notes due June 15, 2017

On June 11, 2007, Ciena completed a public offering of 0.875% convertible senior notes due June 15, 2017, in aggregate principal amount of \$500.0 million . Interest is payable on June 15 and December 15 of each year, beginning on December 15, 2007.

At the election of the holder, the notes may be converted prior to maturity into shares of Ciena common stock at the initial conversion rate of 26.2154 shares per \$1,000 in principal amount, which is equivalent to an initial conversion price of approximately \$38.15 per share. The notes are not redeemable by Ciena prior to maturity.

Ciena used approximately \$42.5 million of the net proceeds of this offering to purchase a call spread option on its common stock that is intended to limit exposure to potential dilution from conversion of the notes. See Note 17 below for a description of this call spread option.

3.75% Convertible Senior Notes, due October 15, 2018

On October 18, 2010, Ciena completed a private placement of 3.75% convertible senior notes due October 15, 2018, in aggregate principal amount of \$350.0 million. Interest is payable on the notes on April 15 and October 15 of each year, beginning on April 15, 2011.

At the election of the holder, the notes may be converted prior to maturity into shares of Ciena common stock at the initial conversion rate of 49.5872 shares per \$1,000 in principal amount, which is equivalent to an initial conversion price of approximately \$20.17 per share.

The net proceeds from the offering were approximately \$340.4 million after deducting the placement agents' fees and other fees and expenses. Ciena used \$76.1 million of the net proceeds to effect the repurchase of its 0.25% convertible senior notes due 2013, which matured during fiscal 2013.

4.0% Convertible Senior Notes due December 15, 2020

As described above, on December 27, 2012, Ciena issued \$187.5 million in aggregate principal amount of 4.0% Convertible Senior Notes due December 15, 2020 (the "2020 Notes") in separate private offerings in exchange for \$187.5 million in aggregate principal amount of 2015 Notes above.

The 2020 Notes are senior unsecured obligations and rank equally with all of Ciena's other existing and future senior unsecured debt. The 2020 Notes pay interest from the date of issuance at a rate of 4.0% per year. The interest is payable semi-annually on June 15 and December 15, commencing on June 15, 2013. The principal amount of the 2020 Notes will also accrete at a rate of 1.85% per year commencing December 27, 2012, compounding on a semi-annual basis. The accreted portion of the principal payable at maturity does not bear interest and is not convertible into shares of Ciena's common stock. The 2020 Notes will mature on December 15, 2020. Consequently, in the event the 2020 Notes are converted, the accreted liability will extinguish without payment.

The 2020 Notes may be converted prior to maturity, at the option of the holder, into shares of Ciena's common stock at an initial conversion rate of 49.0557 shares of common stock per \$1,000 in original principal amount, which is equal to an initial conversion price of \$20.39 per share. In addition, Ciena may elect to convert the 2020 Notes, in whole or in part, at any time on or prior to December 15, 2020, if the daily volume weighted average price of the common stock equals or exceeds 130% of the conversion price then in effect for at least 20 trading days in any 30 consecutive trading day period. If Ciena elects to convert the 2020 Notes on or before maturity, the conversion rate will be adjusted to include an amount of additional shares, determined by reference to a make-whole table, payable in Ciena common stock, or its cash equivalent, at Ciena's election. An aggregate of 9,197,944 shares of Ciena common stock issuable upon conversion of the 2020 Notes has been reserved for issuance.

Upon certain fundamental changes, holders of the 2020 Notes have the option to require Ciena to purchase the 2020 Notes at a price equal to the accreted principal amount of the notes delivered for repurchase plus any accrued and unpaid interest on the original principal amount. Upon a holder's election to convert the 2020 Notes in connection with certain fundamental changes, the conversion rate will be adjusted to include an amount of additional shares, determined by reference to a make-whole table, payable in Ciena common stock, or its cash equivalent, at Ciena's election.

Accounting guidance issued by the FASB requires the issuer of convertible debt instruments with cash settlement features, including partial cash settlement, to account separately for the liability and equity components of the instrument. Under this guidance, the debt is recognized at the present value of its cash flows discounted using the issuer's nonconvertible debt borrowing rate at the time of issuance and the equity component is recognized as the difference between the proceeds from the issuance of the note and the fair value of the liability. The reduced carrying value on the convertible debt results in a debt discount that is accreted back to the convertible debt's principal amount through the recognition of non-cash interest expense over the expected life of the debt, which results in recognizing the interest expense on these borrowings at effective rates approximating what Ciena would have incurred had nonconvertible debt with otherwise similar terms been issued.

Because the additional make-whole shares can be settled in cash or common stock at Ciena's option, the debt and equity components were accounted for separately. Ciena measured the fair value of the debt component of the 2020 Notes using an effective interest rate of 7.0%. As a result, Ciena attributed \$170.4 million of the fair value of the 2020 Notes to the debt component. The debt component was netted against the face value of the 2020 Notes to determine the debt discount. The debt discount will be accreted over the period from the date of issuance to the contractual maturity date, resulting in the recognition of non-cash interest expense. In addition, Ciena recorded \$43.1 million within additional paid-in capital representing the equity component of the 2020 Notes. There was no net tax expense recorded due to Ciena's full valuation allowance against its deferred tax assets.

The 2020 Notes were issued pursuant to an Indenture entered into as of December 27, 2012 (the “Indenture”) with The Bank of New York Mellon Trust Company, N.A., as trustee. The Indenture provides for customary events of default which include (subject in certain cases to customary grace and cure periods), among others, the following: nonpayment of principal (including accreted portion) or interest; breach of covenants or other agreements in the Indenture; defaults in failure to pay certain other indebtedness; and certain events of bankruptcy or insolvency. Generally, if an event of default occurs and is continuing under the Indenture, the trustee or the holders of at least 25% in aggregate original principal amount of the 2020 Notes then outstanding may declare the principal (including accreted portion), premium, if any, and accrued interest on all the 2020 Notes immediately due and payable.

The principal balance, unamortized discount and net carrying value of the liability and equity components of our 2020 notes were as follows as of October 31, 2014

	Liability Component			Equity Component
	Principal Balance	Unamortized Discount	Net Carrying Amount	Net Carrying Amount
4.0% Convertible Senior Notes due December 15, 2020	\$ 193,987	\$ (14,898)	\$ 179,089	\$ 43,131

The following table sets forth, in thousands, the carrying value and the estimated current fair value of Ciena’s outstanding convertible notes:

Description	October 31, 2014	
	Carrying Value	Fair Value ⁽²⁾
4.0% Convertible Senior Notes, due March 15, 2015 ⁽¹⁾	187,562	193,359
0.875% Convertible Senior Notes due June 15, 2017	500,000	487,500
3.75% Convertible Senior Notes, due October 15, 2018	350,000	403,813
4.0% Convertible Senior Notes, due December 15, 2020 ⁽³⁾	179,089	223,828
	<u>\$ 1,216,651</u>	<u>\$ 1,308,500</u>

- (1) Includes unamortized bond premium related to embedded redemption feature.
- (2) The convertible notes were categorized as Level 2 in the fair value hierarchy. Ciena estimates the fair value of its outstanding convertible notes using a market approach based on observable inputs, such as current market transactions involving comparable securities.
- (3) Includes unamortized discount and accretion of principal.

(15) ABL CREDIT FACILITY

During fiscal 2012, Ciena and certain of its subsidiaries entered into a senior secured asset-based revolving credit facility (the “ABL Credit Facility”). On July 15, 2014, Ciena amended the ABL Credit Facility to, among other things:

- increase the total committed amount from \$150 million to \$200 million ;
- extend the maturity date from August 13, 2015 to December 31, 2016 , and eliminate the maturity date acceleration to December 15, 2014 in the event that any of Ciena’s 4.00% senior convertible notes due March 15, 2015 are then outstanding;
- reduce the minimum aggregate amount of unrestricted cash and cash equivalents that Ciena is required to maintain at all times from \$200 million to \$150 million ;
- reduce the interest rate on borrowings from LIBOR plus an applicable margin ranging from 200 basis points to 250 basis points, to an applicable margin ranging from 150 basis points to 200 basis points, with the actual margin based upon Ciena's utilization of the ABL Credit Facility; and
- amend the borrowing base to include, among other items, up to \$50 million in eligible cash.

Ciena also amended the terms of the existing security and pledge agreements to provide the lenders with second-priority security interests in the Term Loan Priority Collateral, in addition to its existing first-priority security interests in current assets, consisting principally of accounts receivable, inventory, cash, and deposit and securities accounts (the "ABL Priority

Collateral"). Except as amended, the remaining terms of the ABL Credit Facility, and related security and pledge agreements, remain in full force and effect.

Ciena principally uses the ABL Credit Facility to support the issuance of letters of credit that arise in the ordinary course of its business and thereby to reduce its use of cash required to collateralize these instruments. As of October 31, 2014, letters of credit totaling \$71.4 million were collateralized by the ABL Credit Facility. There were no borrowings outstanding under the ABL Credit Facility as of October 31, 2014.

(16) EARNINGS (LOSS) PER SHARE CALCULATION

The following table (in thousands except per share amounts) is a reconciliation of the numerator and denominator of the basic net income (loss) per common share ("Basic EPS") and the diluted net income (loss) per potential common share ("Diluted EPS"). Since the numerator reflects net losses for the fiscal years indicated, both Basic EPS and Diluted EPS are computed using the weighted average number of common shares outstanding. If the numerator reflected net income, Diluted EPS would also include, to the extent the effect is not anti-dilutive, the following: (i) shares issuable upon vesting of restricted stock units, (ii) shares issuable under Ciena's employee stock purchase plan and upon exercise of outstanding stock options, using the treasury stock method; and (iii) shares underlying Ciena's outstanding convertible notes.

Numerator

	Year Ended October 31,		
	2012	2013	2014
Net loss	\$ (144,021)	\$ (85,431)	\$ (40,637)

Denominator

	Year Ended October 31,		
	2012	2013	2014
Basic weighted average shares outstanding	99,341	102,350	105,783
Dilutive weighted average shares outstanding	99,341	102,350	105,783

EPS

	Year Ended October 31,		
	2012	2013	2014
Basic EPS	\$ (1.45)	\$ (0.83)	\$ (0.38)
Diluted EPS	\$ (1.45)	\$ (0.83)	\$ (0.38)

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

	Year Ended October 31,		
	2012	2013	2014
Shares underlying stock options and restricted stock units	5,726	3,890	3,176
0.25% Convertible Senior Notes due May 1, 2013	5,470	2,682	—
4.0% Convertible Senior Notes due March 15, 2015	18,395	10,541	9,198
0.875% Convertible Senior Notes due June 15, 2017	13,108	13,108	13,108
3.75% Convertible Senior Notes due October 15, 2018	17,355	17,355	17,355
4.0% Convertible Senior Notes due December 15, 2020	—	7,855	9,198
Total excluded due to anti-dilutive effect	60,054	55,431	52,035

(17) STOCKHOLDERS' EQUITY

Call Spread Options

Ciena purchased a call spread option relating to the 0.875% convertible senior notes due June 15, 2017 for \$42.5 million during the third quarter of fiscal 2007. The call spread option is designed to mitigate exposure to potential dilution from the conversion of the notes. The call spread option was purchased at the time of the notes offering from an affiliate of the underwriter. The cost of the call spread option was recorded as a reduction in paid-in capital.

The call spread option is exercisable, upon maturity of the relevant issue of convertible note, for such number of shares of Ciena common stock issuable upon conversion of that series of notes in full. The call spread option has a “lower strike price” equal to the conversion price for the notes and a “higher strike price” that serves to cap the amount of dilution protection provided. At its election, Ciena can exercise the call spread option on a net cash basis or a net share basis. The value of the consideration of a net share settlement will be equal to the value upon a net cash settlement and can range from \$0 , if the market price per share of Ciena common stock upon exercise is equal to or below the lower strike price, or approximately \$76.1 million , if the market price per share of Ciena common stock upon exercise is at or above the higher strike price. If the market price on the date of exercise is between the lower strike price and the higher strike price, in lieu of a net settlement, Ciena may elect to receive the full number of shares underlying the call spread option by paying the aggregate option exercise price, which is equal to the original principal outstanding on that series of notes. Should there be an early unwind of the call spread option, the amount of cash or shares to be received by Ciena will depend upon the existing overall market conditions, and on Ciena’s stock price, the volatility of Ciena’s stock and the remaining term of the call spread option. The number of shares subject to the call spread option, and the lower and higher strike prices, are subject to customary adjustments.

(18) INCOME TAXES

For the periods indicated, the provision for income taxes consists of the following (in thousands):

	October 31,		
	2012	2013	2014
Provision for income taxes:			
Current:			
Federal	\$ —	\$ —	\$ —
State	857	906	1,831
Foreign	8,465	4,334	12,133
Total current	<u>9,322</u>	<u>5,240</u>	<u>13,964</u>
Deferred:			
Federal	—	—	—
State	—	—	—
Foreign	—	—	—
Total deferred	<u>—</u>	<u>—</u>	<u>—</u>
Provision for income taxes	<u>\$ 9,322</u>	<u>\$ 5,240</u>	<u>\$ 13,964</u>

For the periods indicated, income (loss) before provision for income taxes consists of the following (in thousands):

	October 31,		
	2012	2013	2014
United States	\$ (151,958)	\$ (59,594)	\$ (42,742)
Foreign	17,259	(20,597)	16,069
Total	<u>\$ (134,699)</u>	<u>\$ (80,191)</u>	<u>\$ (26,673)</u>

For the periods indicated, the tax provision reconciles to the amount computed by multiplying income or loss before income taxes by the U.S. federal statutory rate of 35% as follows:

	October 31,		
	2012	2013	2014
Provision at statutory rate	35.00 %	35.00 %	35.00 %
State taxes	(0.64)%	(1.13)%	(6.87)%
Foreign taxes	(5.09)%	(12.70)%	(70.25)%
Research and development credit	10.21 %	17.39 %	32.07 %
Non-deductible loss on debt extinguishment	— %	(11.21)%	— %
Non-deductible compensation and other	(4.92)%	(8.78)%	(29.59)%
Valuation allowance	(41.48)%	(25.10)%	(12.71)%
Effective income tax rate	(6.92)%	(6.53)%	(52.35)%

The significant components of deferred tax assets and liabilities are as follows (in thousands):

	October 31,	
	2013	2014
Deferred tax assets:		
Reserves and accrued liabilities	\$ 44,515	\$ 59,707
Depreciation and amortization	274,468	268,783
NOL and credit carry forward	1,159,494	1,155,389
Other	8,822	12,956
Gross deferred tax assets	1,487,299	1,496,835
Valuation allowance	(1,487,299)	(1,496,835)
Net deferred tax asset	\$ —	\$ —

A reconciliation of the beginning and ending amount of unrecognized tax benefits, excluding interest and penalties, is as follows (in thousands):

Unrecognized tax benefits at October 31, 2011	\$ 8,590
Decrease related to positions taken in prior period	(12)
Increase related to positions taken in current period	2,866
Reductions related to expiration of statute of limitations	(392)
Unrecognized tax benefits at October 31, 2012	11,052
Decrease related to positions taken in prior period	(3,925)
Increase related to positions taken in current period	2,146
Reductions related to expiration of statute of limitations	(994)
Unrecognized tax benefits at October 31, 2013	8,279
Increase related to positions taken in prior period	2,479
Increase related to positions taken in current period	5,241
Reductions related to expiration of statute of limitations	(899)
Unrecognized tax benefits at October 31, 2014	\$ 15,100

As of October 31, 2013 and 2014, Ciena had accrued \$1.4 million and \$3.4 million of interest and penalties, respectively, related to unrecognized tax benefits within other long-term liabilities in the Consolidated Balance Sheets. Interest and penalties of \$0.3 million and \$2.0 million were recorded to the provision for income taxes during fiscal 2012 and fiscal 2014 respectively, and no such charges or benefits were recorded for fiscal 2013. If recognized, the entire balance of unrecognized tax benefits would impact the effective tax rate. Over the next 12 months, Ciena does not estimate any material changes in unrecognized income tax benefits.

During fiscal 2002, Ciena established a valuation allowance against its deferred tax assets. Ciena intends to maintain a valuation allowance until sufficient positive evidence exists to support a reversal. Any future release of the valuation allowance may be recorded as a tax benefit increasing net income or as an adjustment to paid-in capital, based on tax ordering requirements. The following table summarizes the activity in Ciena’s valuation allowance against its gross deferred tax assets (in thousands):

Year ended October 31,	Balance at beginning of fiscal year	Additions	Deductions	Balance at end of fiscal year
2012	\$ 1,467,411	\$ 21,583	\$ —	\$ 1,488,994
2013	\$ 1,488,994	\$ —	\$ 1,695	\$ 1,487,299
2014	\$ 1,487,299	\$ 9,536	\$ —	\$ 1,496,835

As of October 31, 2014, Ciena had a \$2.8 billion net operating loss carry forward and a \$0.1 billion income tax credit carry forward which begin to expire in fiscal year 2018 and 2019, respectively. Ciena’s ability to use net operating losses and credit carry forwards is subject to limitations pursuant to the ownership change rules of the Internal Revenue Code Section 382.

The income tax provision does not reflect the tax savings resulting from deductions associated with Ciena’s equity compensation and the call spread option associated with Ciena’s convertible debt. The cumulative tax benefit through October 31, 2014 of approximately \$81.0 million will be credited to additional paid-in capital when realized. For deductions associated with Ciena’s equity compensation, credits to paid-in capital will be recorded when those tax benefits are used to reduce taxes payable.

(19) SHARE-BASED COMPENSATION EXPENSE

Ciena grants equity awards under its 2008 Omnibus Incentive Plan and the Amended and Restated Employee Stock Purchase Plan (“ESPP”).

2008 Plan

The 2008 Plan authorizes the issuance of awards including stock options, restricted stock units (RSUs), restricted stock, unrestricted stock, stock appreciation rights (SARs) and other equity and/or cash performance incentive awards to employees, directors and consultants of Ciena. Subject to certain restrictions, the Compensation Committee of the Board of Directors has broad discretion to establish the terms and conditions for awards under the 2008 Plan, including the number of shares, vesting conditions, and the required service or performance criteria. Options and SARs have a maximum term of ten years, and their exercise price may not be less than 100% of fair market value on the date of grant. Repricing of stock options and SARs is prohibited without stockholder approval. Certain change in control transactions may cause awards granted under the 2008 Plan to vest, unless the awards are continued or substituted for in connection with the transaction. Pursuant to Board and stockholder approval, effective April 10, 2014, Ciena amended its 2008 Plan to increase the number of shares available for issuance by 6.6 million shares. As of October 31, 2014, the total number of shares authorized for issuance under the 2008 Plan is 25.1 million and approximately 9.3 million shares remained available for issuance thereunder.

Stock Options

Outstanding stock option awards to employees are generally subject to service-based vesting restrictions and vest incrementally over a four-year period. As of October 31, 2014, all outstanding options have completed their service-based vesting conditions and are fully vested. The following table is a summary of Ciena's stock option activity for the periods indicated (shares in thousands):

	Shares Underlying Options Outstanding	Weighted Average Exercise Price
Balance as of October 31, 2011	3,690	\$ 30.01
Granted	—	—
Exercised	(56)	6.72
Canceled	(427)	51.28
Balance as of October 31, 2012	3,207	27.58
Granted	—	—
Exercised	(246)	13.81
Canceled	(859)	31.83
Balance as of October 31, 2013	2,102	27.46
Granted	—	—
Exercised	(162)	16.99
Canceled	(652)	34.08
Balance as of October 31, 2014	<u>1,288</u>	<u>\$ 25.43</u>

The total intrinsic value of options exercised during fiscal 2012, fiscal 2013 and fiscal 2014 was \$0.5 million, \$2.0 million and \$1.0 million, respectively. There were no stock options granted by Ciena during fiscal 2012, fiscal 2013 or fiscal 2014.

The following table summarizes information with respect to stock options outstanding at October 31, 2014, based on Ciena's closing stock price on the last trading day of Ciena's fiscal 2014 (shares and intrinsic value in thousands):

Range of Exercise Price	Number of Underlying Shares	Vested Options at October 31, 2014		
		Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Aggregate Intrinsic Value
\$ 0.94 — \$ 16.31	154	3.28	\$ 8.03	\$ 1,347
\$ 16.52 — \$ 17.29	184	0.95	16.55	42
\$ 17.43 — \$ 24.50	195	1.19	18.71	—
\$ 24.69 — \$ 28.28	284	2.34	27.31	—
\$ 28.61 — \$ 32.55	109	2.68	29.96	—
\$ 33.00 — \$ 37.10	248	3.05	35.24	—
\$ 37.31 — \$ 47.32	114	2.78	44.33	—
\$ 0.94 — \$ 47.32	<u>1,288</u>	2.29	\$ 25.43	<u>\$ 1,389</u>

Assumptions for Option-Based Awards

Ciena recognizes the fair value of service-based options as share-based compensation expense on a straight-line basis over the requisite service period. Ciena did not grant any option-based awards during fiscal 2012, fiscal 2013, or fiscal 2014.

Restricted Stock Units

A restricted stock unit is a stock award that entitles the holder to receive shares of Ciena common stock as the unit vests. Ciena's outstanding restricted stock unit awards are subject to service-based vesting conditions and/or performance-based vesting conditions. Awards subject to service-based conditions typically vest in increments over a three or four -year period. Awards with performance-based vesting conditions require the achievement of certain operational, financial or other performance criteria or targets as a condition of vesting, or the acceleration of vesting, of such awards. Ciena recognizes the

Table of Contents

estimated fair value of performance-based awards, net of estimated forfeitures, as share-based compensation expense over the performance period, using graded vesting, which considers each performance period or tranche separately, based upon Ciena's determination of whether it is probable that the performance targets will be achieved. At each reporting period, Ciena reassesses the probability of achieving the performance targets and the performance period required to meet those targets.

The following table is a summary of Ciena's restricted stock unit activity for the period indicated, with the aggregate fair value of the balance outstanding at the end of each period, based on Ciena's closing stock price on the last trading day of the relevant period (shares and aggregate fair value in thousands):

	Restricted Stock Units Outstanding	Weighted Average Grant Date Fair Value Per Share	Aggregate Fair Value
Balance as of October 31, 2011	4,298	\$ 16.28	\$ 59,399
Granted	2,433		
Vested	(1,912)		
Canceled or forfeited	(416)		
Balance as of October 31, 2012	4,403	14.16	56,267
Granted	2,508		
Vested	(1,920)		
Canceled or forfeited	(572)		
Balance as of October 31, 2013	4,419	15.33	102,745
Granted	1,912		
Vested	(2,165)		
Canceled or forfeited	(154)		
Balance as of October 31, 2014	<u>4,012</u>	\$ 18.02	\$ 67,241

The total fair value of restricted stock units that vested and were converted into common stock during fiscal 2012, fiscal 2013 and fiscal 2014 was \$27.0 million, \$37.3 million and \$48.1 million, respectively. The weighted average fair value of each restricted stock unit granted by Ciena during fiscal 2012, fiscal 2013 and fiscal 2014 was \$11.28, \$16.30 and \$21.82, respectively.

Assumptions for Restricted Stock Unit Awards

The fair value of each restricted stock unit award is based on the closing price on the date of grant. Share-based expense for service-based restricted stock unit awards is recognized, net of estimated forfeitures, ratably over the vesting period on a straight-line basis.

Share-based expense for performance-based restricted stock unit awards, net of estimated forfeitures, is recognized ratably over the performance period based upon Ciena's determination of whether it is probable that the performance targets will be achieved. At each reporting period, Ciena reassesses the probability of achieving the performance targets and the performance period required to meet those targets. The estimation of whether the performance targets will be achieved involves judgment, and the estimate of expense is revised periodically based on the probability of achieving the performance targets. Revisions are reflected in the period in which the estimate is changed. If any performance goals are not met, no compensation cost is ultimately recognized against that goal and, to the extent previously recognized, compensation expense is reversed.

Because share-based compensation expense is recognized only for those awards that are ultimately expected to vest, the amount of share-based compensation expense recognized reflects a reduction for estimated forfeitures. Ciena estimates forfeitures at the time of grant and revises those estimates in subsequent periods based upon new or changed information.

Amended and Restated Employee Stock Purchase Plan (ESPP)

Under the ESPP, eligible employees may enroll in a twelve-month offer period that begins in December and June of each year. Each offer period includes two six-month purchase periods. Employees may purchase a limited number of shares of Ciena

common stock at 85% of the fair market value on either the day immediately preceding the offer date or the purchase date, whichever is lower. The ESPP is considered compensatory for purposes of share-based compensation expense. Pursuant to the ESPP's "evergreen" provision, on December 31 of each year, the number of shares available under the ESPP increases by up to 0.6 million shares, provided that the total number of shares available at that time shall not exceed 8.2 million . Unless earlier terminated, the ESPP will terminate on January 24, 2023 .

During fiscal 2012 , fiscal 2013 and fiscal 2014 , Ciena issued 1.2 million , 0.9 million and 0.9 million shares under the ESPP, respectively. At October 31, 2014 , 6.8 million shares remained available for issuance under the ESPP.

Share-Based Compensation Expense for Periods Reported

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

	Year Ended October 31,		
	2012	2013	2014
Product costs	\$ 2,156	\$ 2,522	\$ 2,531
Service costs	1,462	1,771	2,216
Share-based compensation expense included in cost of goods sold	3,618	4,293	4,747
Research and development	8,567	8,214	9,682
Sales and marketing	11,558	13,290	14,958
General and administrative	8,698	12,055	13,568
Share-based compensation expense included in operating expense	28,823	33,559	38,208
Share-based compensation expense capitalized in inventory, net	(47)	(132)	(25)
Total share-based compensation	\$ 32,394	\$ 37,720	\$ 42,930

As of October 31, 2014 , total unrecognized compensation expense was \$57.2 million , which relates to unvested restricted stock units and is expected to be recognized over a weighted-average period of 1.4 years.

(20) SEGMENT AND ENTITY WIDE DISCLOSURES

Segment Reporting

Ciena’s internal organizational structure and the management of its business are grouped into the following operating segments:

- *Converged Packet Optical* — includes the 6500 Packet-Optical Platform and the 5430 Reconfigurable Switching System, which feature Ciena's WaveLogic coherent optical processors. Products also include Ciena's family of CoreDirector® Multiservice Optical Switches and the OTN configuration for the 5410 Reconfigurable Switching System. This segment also includes sales of operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Packet Networking* — includes Ciena's 3000 family of service delivery switches and service aggregation switches and the 5000 family of service aggregation switches. This segment also includes Ciena’s 8700 Packetwave Platform and Ciena's Ethernet packet configuration for the 5410 Service Aggregation Switch. This segment also includes sales of operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Optical Transport* — includes the 4200 Advanced Services Platform, Corestream® Agility Optical Transport System, 5100/5200 Advanced Services Platform, Common Photonic Layer (CPL) and 6100 Multiservice Optical Platform. This segment includes sales from 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. This segment also includes operating system software and enhanced software features embedded in each of these products. Revenue from this segment is included in product revenue on the Consolidated Statement of Operations.
- *Software and Services* — includes Ciena's Agility software portfolio, which includes a SDN multilayer WAN controller, NFV platform, and network level software applications for enabling on-demand, high-bandwidth WAN

services delivered in an open network ecosystem. This segment also includes the OneControl Unified Management System, ON-Center® Network & Service Management Suite, Ethernet Services Manager and Optical Suite Release. This segment includes a broad range of services for consulting and network design, installation and deployment, maintenance support and training activities. Except for revenue from the software portion of this segment, which is included in product revenue, revenue from this segment is included in services revenue on the Consolidated Statement of Operations.

Ciena's long-lived assets, including equipment, furniture and fixtures, finite-lived intangible assets and maintenance spares, are not reviewed by the chief operating decision maker for purposes of evaluating performance and allocating resources. As of October 31, 2014, equipment, furniture and fixtures totaling \$126.6 million primarily supports asset groups within Ciena's Converged Packet Optical segment, Packet Networking segment, Software and Services segment and Ciena's unallocated selling and general and administrative activities. As of October 31, 2014, all of Ciena's finite-lived intangible assets totaling \$128.7 million were assigned to asset groups within Ciena's Converged Packet Optical segment. As of October 31, 2014, all of the maintenance spares totaling \$54.1 million were assigned to asset groups within Ciena's Software and Services segment.

Segment Revenue

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

	Fiscal Year		
	2012	2013	2014
Revenue:			
Converged Packet Optical	\$ 951,245	\$ 1,187,231	\$ 1,455,501
Packet Networking	128,982	222,898	244,116
Optical Transport	353,620	233,821	127,215
Software and Services	400,076	438,596	461,457
Consolidated revenue	<u>\$ 1,833,923</u>	<u>\$ 2,082,546</u>	<u>\$ 2,288,289</u>

Segment Profit

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

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

	Fiscal Year		
	2012	2013	2014
Segment profit:			
Converged Packet Optical	\$ 148,244	\$ 242,335	\$ 353,942
Packet Networking	1,713	22,740	19,467
Optical Transport	116,736	89,754	38,974
Software and Services	93,352	126,938	134,789
Total segment profit	360,045	481,767	547,172
Less: non-performance operating expenses			
Selling and marketing	266,338	304,170	328,325
General and administrative	114,002	122,432	126,824
Amortization of intangible assets	51,697	49,771	45,970
Restructuring costs	7,854	7,169	349
Add: other non-performance financial items			
Interest expense and other income (loss), net	(54,853)	(49,786)	(72,377)
Loss on extinguishment of debt	—	(28,630)	—
Less: Provision for income taxes	9,322	5,240	13,964
Consolidated net loss	\$ (144,021)	\$ (85,431)	\$ (40,637)

Entity Wide Reporting

The following table reflects Ciena's geographic distribution of revenue based on the location of the purchaser, with any country accounting for at least 10% of total revenue in the period specifically identified. Revenue attributable to geographic regions outside of the United States is reflected as International revenue. For the periods below, Ciena's geographic distribution of revenue was as follows (in thousands):

	Fiscal Year		
	2012	2013	2014
United States	\$ 972,576	\$ 1,217,462	\$ 1,317,981
International	861,347	865,084	970,308
Total	\$ 1,833,923	\$ 2,082,546	\$ 2,288,289

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

	October 31,		
	2012	2013	2014
United States	\$ 64,653	\$ 64,132	\$ 73,420
Canada	48,376	43,772	42,015
Other International	10,551	11,825	11,197
Total	\$ 123,580	\$ 119,729	\$ 126,632

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

	Fiscal Year		
	2012	2013	2014
AT&T	\$ 248,123	\$ 373,617	\$ 423,498

The customer identified above purchased products and services from each of Ciena's operating segments.

(21) OTHER EMPLOYEE BENEFIT PLANS

Ciena has a Defined Contribution Pension Plan that covers a majority of its Canada-based employees. The plan covers all Canada-based employees who are not part of an excluded group. Total contributions (employee and employer) cannot exceed the lesser of 18% of participant earnings and an annual dollar limit (CAD \$24,930 for 2014). This plan includes a required employer contribution of 1% for all participants and a 50% matching of participant contributions up to a total annual maximum of CAD \$3,000 per employee. During fiscal 2012 , 2013 and 2014 , Ciena made matching contributions of approximately CAD \$4.0 million , CAD \$3.9 million and CAD \$4.1 million , respectively.

Ciena has a 401(k) defined contribution profit sharing plan. Participants may contribute up to 60% of pre-tax compensation, subject to certain limitations. The plan includes an employer matching contribution equal to 50% of the first 6% an employee contributes each pay period. Ciena may also make discretionary annual profit contributions up to the IRS regulated limit. Ciena has made no profit sharing contributions to date. During fiscal 2012 , 2013 and 2014 , Ciena made matching contributions of approximately \$4.1 million , \$4.0 million and \$4.5 million , respectively.

(22) COMMITMENTS AND CONTINGENCIES

Ontario Grant

Ciena was awarded a conditional grant from the Province of Ontario in June 2011. Under this strategic jobs investment fund grant, Ciena can receive up to an aggregate of CAD \$25.0 million in funding for eligible costs relating to certain next-generation, coherent optical transport development initiatives over the period from November 1, 2010 to October 31, 2015 . Amounts received under the grant are subject to recoupment in the event that Ciena fails to achieve certain minimum investment, employment and project milestones. As of October 31, 2014 , Ciena has recorded a CAD\$ 23.1 million benefit to date, as a reduction in research and development expenses. As of October 31, 2014 , the amount receivable from this grant was CAD \$3.1 million .

Foreign Tax Contingencies

As of October 31, 2013 and October 31, 2014 , Ciena had accrued liabilities of \$0.4 million and \$0.5 million , respectively, related to a preliminary assessment notice from the India tax authorities asserting deficiencies in payments for the tax year 2009 related to income taxes. This contingency has been reported as a component of other long-term liabilities. During February 2014, Ciena received a final audit assessment notice from the India tax authorities with respect to this matter. Ciena has filed an appeal citing deficiencies in this assessment. Although Ciena estimates that it could be exposed to possible losses of up to \$1.5 million , it has not accrued a liability of such amount as of October 31, 2014 . Ciena has not accrued the additional income tax liability because it does not believe that such a loss is more likely than not. Ciena continues to evaluate the likelihood of a probable and reasonably possible loss, if any, related to this assessment. As a result, future increases or decreases to accrued liabilities may be necessary and will be recorded in the period when such amounts are estimable and more likely than not to occur.

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

Litigation

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.

Table of Contents

In December 2010, the PTO confirmed the validity of some claims and rejected the validity of other claims of the '673 Patent, to which 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 matter described above, Ciena is 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. Ciena does not expect that the ultimate costs to resolve these matters will have a material effect on its results of operations, financial position or cash flows.

Operating Lease Commitments

Ciena has certain minimum obligations under non-cancelable operating leases expiring on various dates through 2032 for equipment and facilities. During the fourth quarter of fiscal 2014, the Company entered into a lease relating to office space for its new research and development center in Ottawa, Canada, consisting of a rentable area of approximately 170,582 square feet. The future minimum rental commitments to be paid over the 18 -year lease term are approximately \$49.1 million . Future annual minimum operating lease commitments under non-cancelable operating leases at October 31, 2014 are as follows (in thousands):

	Year ended October 31,	
2015		\$ 33,527
2016		31,605
2017		28,232
2018		15,675
2019		12,668
Thereafter		83,191
Total		<u>\$ 204,898</u>

Rental expense for fiscal 2012 , fiscal 2013 and fiscal 2014 was approximately \$21.7 million , \$26.0 million and \$22.9 million , respectively. In addition, Ciena paid approximately \$1.4 million , \$1.6 million and \$0.5 million during fiscal 2012 , fiscal 2013 and fiscal 2014 , respectively, related to rent costs for restructured facilities and unfavorable lease commitments, which were offset against Ciena's restructuring liabilities and unfavorable lease obligations. The amount for operating lease commitments above does not include variable expenses relating to insurance, taxes, maintenance and other costs required by the applicable operating lease. These costs are not expected to have a material impact on Ciena's financial condition, results of operations or cash flows.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

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

Changes in Internal Control over Financial Reporting

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

Report of Management on Internal Control Over Financial Reporting

The management of Ciena Corporation is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934).

The internal control over financial reporting at Ciena Corporation was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of Ciena Corporation;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America;
- provide reasonable assurance that receipts and expenditures of Ciena Corporation are being made only in accordance with authorization of management and directors of Ciena Corporation; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

Management of Ciena Corporation assessed the effectiveness of the company’s internal control over financial reporting as of October 31, 2014 . Management based this assessment on criteria for effective internal control over financial reporting described in “Internal Control — Integrated Framework” issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management determined that, as of October 31, 2014 , Ciena Corporation maintained effective internal control over financial reporting. Management reviewed the results of its assessment with the Audit Committee of our Board of Directors.

PricewaterhouseCoopers LLP, independent registered public accounting firm, who audited and reported on the consolidated financial statements of Ciena Corporation included in this annual report, has also audited the effectiveness of Ciena Corporation’s internal control over financial reporting as of October 31, 2014 , as stated in its report appearing in Item 8 of Part II of this annual report.

/s/ Gary B. Smith

Gary B. Smith
President and Chief Executive Officer
December 19, 2014

/s/ James E. Moylan, Jr.

James E. Moylan, Jr.
Senior Vice President and Chief Financial Officer
December 19, 2014

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information relating to Ciena’s directors and executive officers is set forth in Part I of this annual report under the caption "Item 1. Business—Directors and Executive Officers.”

Additional information responsive to this item concerning our Audit Committee and regarding compliance with Section 16(a) of the Exchange Act is incorporated herein by reference from Ciena’s definitive proxy statement with respect to our 2015 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Form 10-K.

As part of our system of corporate governance, our board of directors has adopted a code of ethics that is specifically applicable to our chief executive officer and senior financial officers. This Code of Ethics for Senior Financial Officers, as well as our Code of Business Conduct and Ethics, applicable to all directors, officers and employees, are available on the "Corporate Governance" page of our website at <http://www.ciena.com>. We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Ethics for Senior Financial Officers, by posting such information on our website at the address above.

Item 11. Executive Compensation

Information responsive to this item is incorporated herein by reference from Ciena’s definitive proxy statement with respect to our 2015 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Form 10-K.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information responsive to this item is incorporated herein by reference from Ciena’s definitive proxy statement with respect to our 2015 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Form 10-K.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information responsive to this item is incorporated herein by reference from Ciena’s definitive proxy statement with respect to our 2015 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Form 10-K.

Item 14. Principal Accountant Fees and Services

Information responsive to this item is incorporated herein by reference from Ciena’s definitive proxy statement with respect to our 2015 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year covered by this Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules

- (a)
 - 1. The information required by this item is included in Item 8 of Part II of this annual report.
 - 2. The information required by this item is included in Item 8 of Part II of this annual report.
 - 3. Exhibits: See Index to Exhibits, which is incorporated by reference in this Item. The Exhibits listed in the accompanying Index to Exhibits are filed herewith or incorporated by reference as part of this annual report.
- (b) Exhibits. See Index to Exhibits, which is incorporated by reference in this Item. The Exhibits listed in the accompanying Index to Exhibits are filed herewith or incorporated by reference as part of this annual report.
- (c) Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on the 19th day of December 2014 .

Ciena Corporation

By: /s/ Gary B. Smith

Gary B. Smith

President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the date indicated.

Signatures	Title	Date
<u>/s/ Patrick H. Nettles, Ph.D.</u> Patrick H. Nettles, Ph.D.	Executive Chairman of the Board of Directors	December 19, 2014
<u>/s/ Gary B. Smith</u> Gary B. Smith (Principal Executive Officer)	President, Chief Executive Officer and Director	December 19, 2014
<u>/s/ James E. Moylan, Jr.</u> James E. Moylan, Jr. (Principal Financial Officer)	Sr. Vice President, Finance and Chief Financial Officer	December 19, 2014
<u>/s/ Andrew C. Petrik</u> Andrew C. Petrik (Principal Accounting Officer)	Vice President, Controller	December 19, 2014
<u>/s/ Harvey B. Cash</u> Harvey B. Cash	Director	December 19, 2014
<u>/s/ Bruce L. Claflin</u> Bruce L. Claflin	Director	December 19, 2014
<u>/s/ Lawton W. Fitt</u> Lawton W. Fitt	Director	December 19, 2014
<u>/s/ Patrick T. Gallagher</u> Patrick T. Gallagher	Director	December 19, 2014
<u>/s/ T. Michael Nevens</u> T. Michael Nevens	Director	December 19, 2014
<u>/s/ Judith M. O'Brien</u> Judith M. O'Brien	Director	December 19, 2014
<u>/s/ Michael J. Rowny</u> Michael J. Rowny	Director	December 19, 2014

INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Here- with (X)
		Form and Registration or Commission No.	Exhibit	Filing Date	
2.1	Amended & Restated Asset Sale Agreement by and among Nortel Networks Corporation, Nortel Networks Limited, Nortel Networks, Inc. and certain other entities identified therein as sellers and Ciena Corporation, dated as of November 24, 2009 (“Nortel ASA”)+	10-K (000-21969)	2.1	12/22/2009	
2.2	Amendment No. 1 to Nortel ASA dated as of December 3, 2009+	10-K (000-21969)	2.2	12/22/2009	
2.3	Amendment No. 2 to Nortel ASA dated as of December 23, 2009+	10-Q (000-21969)	2.1	3/5/2010	
2.4	Amendment No. 3 to Nortel ASA dated as of March 15, 2010	10-Q (000-21969)	2.1	6/10/2010	
2.5	Amendment No. 4 to Nortel ASA dated as of March 15, 2010+	10-Q (000-21969)	2.2	6/10/2010	
2.6	Amendment No. 5 to Nortel ASA dated as of March 19, 2010+	10-Q (000-21969)	2.3	6/10/2010	
2.7	Asset Sale Agreement (relating to the sale and purchase of certain Nortel assets in Europe, the Middle East and Africa) by and among the Nortel affiliates, Joint Administrators and Joint Israeli Administrators named therein and Ciena Corporation, dated as of October 7, 2009 (“Nortel EMEA ASA”)+	10-K (000-21969)	2.3	12/22/2009	
2.8	Deed of Amendment (Amendment No. 1) dated October 20, 2009, relating to the Nortel EMEA ASA+	10-K (000-21969)	2.4	12/22/2009	
2.9	Amendment Agreement (Amendment No. 2) dated November 24, 2009 relating to the Nortel EMEA ASA+	10-K (000-21969)	2.5	12/22/2009	
2.10	Deed of Amendment (Amendment No. 3) dated December 16, 2009 relating to the Nortel EMEA ASA+	10-K (000-21969)	2.6	12/22/2009	
2.11	Amendment Agreement (Amendment No. 4) dated January 13, 2010 relating to Nortel EMEA ASA+	10-Q (000-21969)	2.2	3/5/2010	
2.12	Deed of Amendment (Amendment No. 5) dated March 19, 2010 relating to Nortel EMEA ASA+	10-Q (000-21969)	2.4	6/10/2010	
3.1	Amended and Restated Certificate of Incorporation of Ciena Corporation	8-K (000-21969)	3.1	3/27/2008	
3.2	Amended and Restated Bylaws of Ciena Corporation	8-K (000-21969)	3.1	8/28/2008	
4.1	Specimen Stock Certificate	10-K (000-21969)	4.1	12/27/2007	
4.2	Indenture dated June 11, 2007 between Ciena Corporation and The Bank of New York, as trustee, for 0.875% Convertible Senior Notes due 2017, including the Form of Global Note attached as Exhibit A thereto	8-K (000-21969)	4.7	6/12/2007	

Table of Contents

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Here- with (X)
		Form and Registration or Commission No.	Exhibit	Filing Date	
4.3	Indenture dated March 15, 2010 between Ciena Corporation and The Bank of New York Mellon, as trustee, for 4.0% Convertible Senior Notes due 2015, including the Form of Global Note attached as Exhibit A thereto	8-K (000-21969)	4.1	3/19/2010	
4.4	Indenture dated October 18, 2010 between Ciena Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee, for 3.75% Convertible Senior Notes due 2018, including the Form of Global Note attached as Exhibit A thereto	8-K (000-21969)	4.1	10/21/2010	
4.5	Indenture dated December 27, 2012 between Ciena Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee, for 4.0% Convertible Senior Notes due 2020, including the Form of Global Note attached as Exhibit A thereto	8-K (000-21969)	4.1	12/31/2012	
10.1	1999 Non-Officer Stock Option Plan and Form of Stock Option Agreement*	10-K (000-21969)	10.22	12/10/1999	
10.2	Amendment No. 1 to 1999 Non-Officer Stock Option Plan*	10-K (000-21969)	10.25	12/13/2001	
10.3	Catena Networks, Inc. 1998 Equity Incentive Plan, as amended*	10-Q (000-21969)	10.38	5/20/2004	
10.4	Internet Photonics, Inc. Amended and Restated 2000 Corporate Stock Option Plan*	10-Q (000-21969)	10.39	5/20/2004	
10.5	Ciena Corporation 2000 Equity Incentive Plan (Amended and Restated ONI Systems Corp. 2000 Equity Incentive Plan)*	10-K (000-21969)	10.37	12/11/2003	
10.6	Form of Stock Option Award Agreement for executive officers under Ciena Corporation 2000 Equity Incentive Plan*	8-K (000-21969)	10.1	11/4/2005	
10.7	Form of Restricted Stock Unit Award Agreement for executive officers under Ciena Corporation 2000 Equity Incentive Plan*	8-K (000-21969)	10.2	11/4/2005	
10.8	Form of Performance Stock Unit Award Agreement for executive officers under Ciena Corporation 2000 Equity Incentive Plan*	8-K (000-21969)	10.3	11/4/2005	
10.9	Form of Stock Option Award Agreement for directors under Ciena Corporation 2000 Equity Incentive Plan*	8-K (000-21969)	10.4	11/4/2005	
10.10	Form of Restricted Stock Unit Award Agreement for directors under Ciena Corporation 2000 Equity Incentive Plan*	8-K (000-21969)	10.5	11/4/2005	
10.11	Amended and Restated 2003 Employee Stock Purchase Plan*	8-K (000-21969)	10.2	3/23/2012	
10.12	Employee Stock Purchase Plan Enrollment Agreement*	10-K (000-21969)	10.33	12/22/2011	
10.13	1996 Outside Directors Stock Option Plan*	S-1 (333-17729)	10.4	12/12/1996	
10.14	Forms of 1996 Outside Directors Stock Option Agreement*	S-1 (333-17729)	10.5	12/12/1996	

Table of Contents

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Here-with (X)
		Form and Registration or Commission No.	Exhibit	Filing Date	
10.15	Third Amended and Restated 1994 Stock Option Plan*	S-1 (333-17729)	10.2	12/12/1996	
10.16	Amended and Restated 1994 Stock Option Plan Forms of Employee Stock Option Agreement*	S-1 (333-17729)	10.3	12/12/1996	
10.17	2008 Omnibus Incentive Plan*	8-K (000-21969)	10.1	3/27/2008	
10.18	Amendment (No. 1) to Ciena Corporation 2008 Omnibus Incentive Plan dated April 14, 2010*	8-K (000-21969)	10.1	4/15/2010	
10.19	Amendment (No. 2) to Ciena Corporation 2008 Omnibus Incentive Plan dated March 21, 2012*	8-K (000-21969)	10.1	3/23/2012	
10.20	Amendment (No. 3) to Ciena Corporation 2008 Omnibus Incentive Plan dated April 10, 2014*	10-Q (001-36250)	10.1	6/11/2014	
10.21	Form of 2008 Omnibus Incentive Plan Restricted Stock Unit Agreement (Employee)*	10-K (000-21969)	10.18	12/22/2011	
10.22	Form of 2008 Omnibus Incentive Plan Non-Qualified Stock Option Agreement (Employee)*	10-Q (000-21969)	10.2	6/4/2009	
10.23	Form of 2008 Omnibus Incentive Plan Restricted Stock Unit Agreement (Director)*	10-Q (000-21969)	10.3	6/4/2009	
10.24	Form of Indemnification Agreement with Directors and Executive Officers*	10-Q (000-21969)	10.1	3/3/2006	
10.25	Amended and Restated Change in Control Severance Agreement dated November 1, 2013, between Ciena Corporation and Gary B. Smith*	8-K (000-21969)	10.1	11/01/2013	
10.26	Form of Amended and Restated Change in Control Severance Agreement between Ciena Corporation and Executive Officers*	8-K (000-21969)	10.2	11/01/2013	
10.27	Ciena Corporation Directors Restricted Stock Deferral Plan*	10-Q (000-21969)	10.1	8/31/2007	
10.28	Ciena Corporation Amended and Restated Incentive Bonus Plan, as amended December 15, 2011*	10-K (000-21969)	10.26	12/22/2011	
10.29	Ciena Corporation 2010 Inducement Equity Award Plan*	10-K (000-21969)	10.35	12/22/2009	
10.30	Form of 2010 Inducement Equity Award Plan Restricted Stock Unit Agreement*	8-K (000-21969)	10.2	3/25/2010	
10.31	U.S. Executive Severance Benefit Plan*	10-Q (000-21969)	10.1	6/9/2011	
10.32	Lease Agreement dated as of March 19, 2010 between Ciena Canada, Inc. and Nortel Networks Technology Corp.#	10-Q (000-21969)	10.1	6/10/2010	
10.33	Lab 10 Lease Amending Agreement dated February 13, 2012 between Her Majesty the Queen in Right of Canada, as Represented by the Minister of Public Works and Government Services, and Ciena Canada, Inc.	8-K (000-21969)	1.1	2/15/2012	
10.34	Second Lease Amending Agreement dated August 29, 2013 by and between Her Majesty the Queen in Right of Canada, as Represented by the Minister of Public Works and Government Services, as landlord, and Ciena Canada, Inc., as tenant	8-K (000-21969)	10.1	8/3/2013	
10.35	Third Lease Amending Agreement dated July 11, 2014 by and between Her Majesty the Queen in Right of Canada, as Represented by the Minister of Public Works and Government Services, as landlord, and Ciena Canada, Inc., as tenant	8-K (001-36250)	10.1	7/11/2014	

Table of Contents

10.36	Lease Agreement by and between Ciena Canada, Inc. and Innovation Blvd. II Limited dated as of October 23, 2014+	—	—	—	X
10.37	Intellectual Property License Agreement dated as of March 19, 2010 between Ciena Luxembourg S.a.r.l. and Nortel Networks Limited#	10-Q (000-21969)	10.3	6/10/2010	
10.38	Lease Agreement dated November 3, 2011 between Ciena Corporation and W2007 RDG Realty, L.L.C. ++	10-K (000-21969)	10.34	12/22/2011	
10.39	ABL Credit Agreement, dated August 13, 2012, by and among Ciena Corporation, Ciena Communications, Inc. and Ciena Canada, Inc., as the borrowers, the lenders party thereto, Deutsche Bank AG New York Branch, as administrative agent and collateral agent, Bank of America, N.A., as syndication agent, and Morgan Stanley Senior Funding, Inc. and Wells Fargo Bank, National Association, as co-documentation agents ++	10-Q (000-21969)	10.1	9/5/2012	
10.40	Amendment to ABL Credit Agreement, dated August 24, 2012, by and among Ciena Corporation, Ciena Communications, Inc. and Ciena Canada, Inc., as the borrowers, and Deutsche Bank AG New York Branch, as administrative agent ++	10-Q (000-21969)	10.2	9/5/2012	
10.41	Omnibus Second Amendment to ABL Credit Agreement and First Amendment to U.S. Security Agreement, Canadian Security Agreement, U.S. Pledge Agreement, U.S. Guaranty and Canadian Guaranty, entered into as of March 5, 2013, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Canada, Inc., and Deutsche Bank AG New York Branch	10-Q (000-21969)	10.2	3/13/2013	
10.42	Third Amendment to ABL Credit Agreement dated July 15, 2014 by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc. Ciena Canada, Inc., Deutsche Bank AG New York Branch, as administrative agent and collateral agent, and the lenders party thereto.	10-Q (001-36250)	10.1	9/9/2014	
10.43	Joinder Agreement under ABL Credit Agreement and Related Agreements as of March 15, 2013 by and between Ciena Government Solutions, Inc. and Deutsche Bank AG New York Branch, as Administrative Agent and as Collateral Agent, for the benefit of the Secured Creditors++	10-Q (000-21969)	10.2	6/12/2013	
10.44	Amended and Restated Security Agreement, dated August 13, 2012, amended and restated as of July 15, 2014, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc., and Deutsche Bank AG New York Branch, as Collateral Agent++	10-Q (001-36250)	10.2	9/9/2014	
10.45	Amended and Restated Pledge Agreement, dated August 13, 2012, amended and restated as of July 15, 2014, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc., and Deutsche Bank AG New York Branch, as Pledgee++	10-Q (001-36250)	10.3	9/9/2014	
10.46	U.S. Guaranty, dated August 13, 2012, by and among Ciena Corporation and Ciena Communications, Inc., as guarantors, and Deutsche Bank AG New York Branch, as administrative agent ++	10-Q (000-21969)	10.5	9/5/2012	
10.47	Canadian Guaranty, dated August 13, 2012, by and between Ciena Canada, Inc., as guarantor, and Deutsche Bank AG New York Branch, as administrative agent ++	10-Q (000-21969)	10.7	9/5/2012	

Table of Contents

10.48	Amended and Restated Canadian Security Agreement, dated August 13, 2012, amended and restated as of July 15, 2014, by and among Ciena Canada, Inc., each other assignor from time to time party thereto, and Deutsche Bank AG New York Branch, as Collateral Agent.++	10-Q (001-36250)	10.4	9/9/2014	
10.49	Credit Agreement, dated July 15, 2014, by and among Ciena Corporation, the lenders party thereto, and Bank of America, N.A., as Administrative Agent++	10-Q (001-36250)	10.5	9/9/2014	
10.50	Guaranty, dated July 15, 2014, by and among Ciena Communications, Inc., Ciena Government Solutions, Inc. and Bank of America, N.A., as Administrative Agent.	10-Q (001-36250)	10.6	9/9/2014	
10.51	Term Loan Security Agreement, dated July 15, 2014, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc., and Bank of America, N.A., as Collateral Agent.	10-Q (001-36250)	10.7	9/9/2014	
10.52	Term Loan Pledge Agreement, dated July 15, 2014, by and among Ciena Corporation, Ciena Communications, Inc., Ciena Government Solutions, Inc., and Bank of America, N.A., as Pledgee.	10-Q (001-36250)	10.8	9/9/2014	
12.1	Computation of Earnings to Fixed Charges	—	—	—	X
21.1	Subsidiaries of registrant	—	—	—	X
23.1	Consent of Independent Registered Public Accounting Firm	—	—	—	X
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	—	—	—	X
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	—	—	—	X
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	—	—	—	X
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	—	—	—	X
101.INS	XBRL Instance Document	—	—	—	X
101.SCH	XBRL Taxonomy Extension Schema Document	—	—	—	X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	—	—	—	X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	—	—	—	X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	—	—	—	X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	—	—	—	X

- * Represents management contract or compensatory plan or arrangement
- + Pursuant to Item 601(b)(2) of Regulation S-K, certain schedules and exhibits referenced in the table of contents have been omitted. Ciena hereby agrees to furnish supplementally a copy of any omitted exhibit or schedule to the SEC upon request. In addition, representations and warranties included in these agreements, as amended, were made by the parties to one another in connection with a negotiated transaction. These representations and warranties were made as of specific dates, only for purposes of these agreements and for the benefit of the parties thereto. These representations and warranties were subject to important exceptions and limitations agreed upon by the parties, including being qualified by confidential disclosures, made for the purposes of allocating contractual risk between the parties rather than establishing these matters as facts. These agreements are filed with this report only to provide investors with information regarding its terms and conditions, and not to provide any other factual information regarding Ciena or any other party thereto. Accordingly, investors should not rely on the representations and warranties contained in these agreements or any description thereof as characterizations of the actual state of facts or condition of any party, its subsidiaries or affiliates. The information in these agreements should be considered together with Ciena's public reports filed with the SEC.
- ++ Representations and warranties included in these agreements, as amended, were made by the parties to one another in connection with a negotiated transaction. These representations and warranties were made as of specific dates, only for purposes of these agreements and for the benefit of the parties thereto. These representations and warranties were subject to important exceptions and limitations agreed upon by the parties, including being qualified by confidential disclosures, made for the purposes of allocating contractual risk between the parties rather than establishing these matters as facts. These agreements are filed with this report only to provide investors with information regarding its terms and conditions, and not to provide any other factual information regarding Ciena or any other party thereto. Accordingly, investors should not rely on the representations and warranties contained in these agreements or any description thereof as characterizations of the actual state of facts or condition of any party, its subsidiaries or affiliates. The information in these agreements should be considered together with Ciena's public reports filed with the SEC.
- # Certain portions of these documents have been omitted based on a request for confidential treatment submitted to the SEC. The non-public information that has been omitted from these documents has been separately filed with the SEC. Each redacted portion of these documents is indicated by a "[*]" and is subject to the request for confidential treatment submitted to the SEC. The redacted information is confidential information of the Registrant.

**LEASE AGREEMENT BETWEEN
INNOVATION BLVD II LIMITED
AS LANDLORD, AND
CIENA CANADA, INC.
AS TENANT**

DATED OCTOBER 23, 2014

**5050 INNOVATION DRIVE
OTTAWA, ONTARIO K2K 3K1**

2684284v.19 SPE025/16005

5050 INNOVATION DRIVE

OTTAWA, ONTARIO K2K 3K1

BASIC LEASE INFORMATION

Lease Date: October 23, 2014

Landlord: **INNOVATION BLVD II LIMITED** , a Nova Scotia limited company

Tenant: **CIENA CANADA, INC.** , a federal corporation pursuant to the Canada Business Corporations Act

Initial Premises; First Must-Take Space; Second Must-Take Space; Premises: 68,276 rentable square feet, in the aggregate, (the “ **Initial Premises** ”) on the first and second floors, and following the First Must-Take Commencement Date (defined below), an additional 34,102 rentable square feet on the third floor (the “ **First Must-Take Space** ”), and following the Second Must-Take Commencement Date (defined below), an additional 68,204 rentable square feet, in the aggregate, on the fourth and fifth floors (the “ **Second Must-Take Space** ”) for a total of 170,582 rentable square feet, representing all of the rentable square feet in the office building commonly known as 5050 Innovation Drive and shown as Building “B” on Exhibit A (the “ **Building** ”), and whose street address is 5050 Innovation Drive, Ottawa, Ontario. As used herein, “ **Premises** ” means, collectively, the Initial Premises, the First Must-Take Space and the Second Must-Take Space. The Premises are outlined on the plan attached to the Lease as Exhibit B. The land on which the Project is located (the “ **Land** ”) is described on Exhibit C and shown outlined in thick black on Exhibit A. The term “ **Project** ” shall collectively refer to the Building, the Land and the driveways, entrances and exits, sidewalks, landscaping, utilities, services, parking facilities, and similar improvements and easements associated with the foregoing or the operations thereof, which Project is generally depicted on the site plan attached as Exhibit A hereto.

Term: 216 full calendar months, plus any partial month from the Commencement Date to the end of the month in which the Commencement Date falls, starting on the Commencement Date and ending at 11:59 p.m. local time on the last day of the 216th full calendar month following the Commencement Date, subject to extension, adjustment and earlier termination as provided in the Lease, including pursuant to Section 26.9 hereof (the “ **Term** ”).

Commencement Date: The earlier of (a) the date on which Tenant occupies any material portion (being more than 10% of the rentable square footage on the applicable floor) of the Initial Premises and begins conducting business therein, or (b) January 1, 2015 (the “ **Commencement Date** ”).

First Must-Take Commencement Date: The earlier of (a) the date on which Tenant occupies any material portion (being more than 10% of the rentable square footage on the applicable floor) of the First Must-Take Space and begins conducting business therein, or (b) June 1, 2015 (the “ **First Must-Take Commencement Date** ”).

Second Must-Take Commencement Date: The earlier of (a) the date on which Tenant occupies any material portion (being more than 10% of the rentable square footage on the applicable floor) of the Second Must-Take Space and begins conducting business therein, or (b) February 1, 2016 (the “ **Second Must-Take Commencement Date** ”).

Basic Rent: Basic Rent shall be the following amounts for the following periods of time:

Lease Months (calculated from and after the Commencement Date)	Rentable Square Footage in the Premises	Annual Basic Rent Rate Per Rentable Square Foot in the Premises	Monthly Basic Rent
Commencement Date to the day immediately preceding the First Must-Take Commencement Date	68,276	\$16.50	\$93,879.50
First Must-Take Commencement Date to the day immediately preceding the Second Must-Take Commencement Date	102,378	\$16.50	\$140,769.75
Second Must-Take Commencement Date to the last date of Lease Month 60	170,582	\$16.50	\$234,550.25
61 – 120	170,582	\$18.00	\$255,873.00
121 – 180	170,582	\$19.50	\$277,195.75
181 – 216	170,582	\$21.00	\$298,518.50

As used herein, the term “ **Lease Month** ” means each calendar month during the Term (and if the Commencement Date does not occur on the first day of a calendar month, the period from the Commencement Date to the first day of the next calendar month shall be included in the first Lease Month for purposes of determining the duration of the Term and the monthly Basic Rent rate applicable for such partial month).

Security Deposit: \$0.00. There is no security deposit (whether in cash or otherwise) required to be posted by or on behalf of Tenant.

Additional Rent: The Property Management Fee and Tenant’s Proportionate Share of Operating Costs and Taxes.

Rent: Basic Rent, Additional Rent, and all other sums that Tenant may owe to Landlord or otherwise be required to pay under the Lease.

Permitted Use: General office use, research and development facility, light assembly and such other uses as may from time to time be related or incidental to the business of Tenant in the Premises consistent with Class A buildings in the submarket in which the Building is located, in each case in compliance with Section 9 of the Lease and otherwise to that extent permitted by applicable Law.

Tenant’s Proportionate Share: As of the Commencement Date, 40.03%, which is the percentage obtained by dividing (a) the 68,276 rentable square feet in the Initial Premises as stated above by (b) the 170,582 rentable square feet in the Project. As of the First Must-Take Commencement Date, 60.02%, which is the percentage obtained by dividing (1) the 102,378 rentable square feet in the Initial Premises and First Must-Take Space, in the aggregate, as stated above by (2) the 170,582 rentable square feet in the Project. As of the Second Must-Take Commencement Date, 100%, which is the percentage obtained by dividing (i) the 170,582 rentable square feet in the Initial Premises, First Must-Take Space and Second Must-Take Space, in the aggregate, as stated above by (ii) the 170,582 rentable square feet in the Project. Tenant acknowledges that Landlord has delivered to Tenant, and Tenant has reviewed and approved, space calculations for the Premises and Project; accordingly, Landlord and Tenant stipulate that the number of rentable square feet in the Initial Premises, First Must-Take Space, Second Must-Take Space and in the Project set forth above is conclusive and shall be binding upon them.

Initial Liability Insurance Amount: \$1,000,000 per occurrence in primary coverage, with an additional \$10,000,000 in umbrella coverage.

Tenant’s Address: For all Notices: Ciena Canada, Inc.
c/o Ciena Corporation
7035 Ridge Rd.
Hanover, Maryland 21076-1426
Attention: General Counsel

With a copy to: Ciena Canada, Inc.
c/o Ciena Corporation
7035 Ridge Rd.
Hanover, Maryland 21076-1426
Attention: Vice President of Corporate Real Estate and Facilities

Landlord’s Address: For all Notices: Innovation Blvd II Limited
c/o Spear Street Capital, LLC
One Market Plaza, Spear Tower, Suite 4125
San Francisco, CA 94105
Attention: John S. Grassi

With a copy to: Innovation Blvd II Limited
c/o Spear Street Capital, LLC
450 Lexington Avenue, 39th Floor
New York, NY 10017
Attention: Asset Manager – 5050 Innovation

The foregoing Basic Lease Information is incorporated into and made a part of the Lease identified above. If any conflict exists between any Basic Lease Information and the Lease, then the Lease shall control.

TABLE OF CONTENTS

	<u>Page No.</u>	
1.	Definitions and Basic Provisions	1
2.	Lease Grant	1
3.	Tender of Possession	1
4.	Rent	2
4.1	Payment	2
4.2	Additional Rent	2
4.3	Sales Taxes	8
4.4	Net Lease	8
4.5	Additional Rent – Adjustment	8
5.	Delinquent Payment; Handling Charges	8
6.	Security Deposit	8
7.	Landlord’s Obligations	8
7.1	Services	8
7.2	Repair and Maintenance by Landlord	8
7.3	Access	9
7.4	Performance of Capital Work	10
8.	Improvements; Alterations; Repairs; Maintenance; Utilities; Electricity	10
8.1	Improvements; Alterations	10
8.2	Repair and Maintenance by Tenant	11
8.3	Performance of Work	12
8.4	Liens	13
8.5	Utilities; Licenses and Permits	14
8.6	Electrical Use	14
9.	Use	14
10.	Assignment and Subletting	15
10.1	Transfers	15
10.2	Consent Standards	15
10.3	Request for Consent	16
10.4	Conditions to Consent	16
10.5	No Release	17
10.6	Attornment by Subtenants	18
10.7	Cancellation	18
10.8	Additional Compensation	18
10.9	Permitted Transfers	19

10.1	Permitted Occupants	20
11.	Insurance; Waivers; Subrogation; Indemnity	21
11.1	Tenant's Insurance	21
11.2	Landlord's Insurance	22
11.3	No Subrogation; Waiver of Property Claims	22
11.4	Indemnity	22
12.	Subordination; Attornment; Notice to Landlord's Mortgagee	23
12.1	Subordination	23
12.2	Attornment	23
12.3	Notice to Landlord's Mortgagee	23
12.4	Landlord's Mortgagee's Protection Provisions	23
12.5	Subordination, Non-Disturbance and Agreement	24
13.	Rules and Regulations	24
14.	Condemnation	24
14.1	Total Taking	24
14.2	Partial Taking - Tenant's Rights	24
14.3	Partial Taking - Landlord's Rights	24
14.4	Award	24
14.5	Restoration	25
15.	Fire or Other Casualty	25
15.1	Repair Estimate	25
15.2	Tenant's Rights	25
15.3	Landlord's Rights	25
15.4	Repair Obligation	25
15.5	Abatement of Rent	26
16.	Personal Property Taxes	26
17.	Events of Default	26
17.1	Payment Default	26
17.2	Vacating	26
17.3	Estoppel; Subordination; Financial Reports	26
17.4	Insurance	27
17.5	Liens	27
17.6	Transfer	27

	17.7	Other Defaults	27
	17.8	Insolvency	27
18.		Remedies	27
	18.1	Termination of Lease	27
	18.2	Termination of Possession	27
	18.3	Perform Acts on Behalf of Tenant	28
	18.4	Suspension of Services	28
	18.5	Alteration of Locks	28
	18.6	Recovery of Rent	28
19.		Payment by Tenant; Non-Waiver; Cumulative Remedies; Mitigation of Damage	28
	19.1	Payment by Tenant	28
	19.2	No Waiver	28
	19.3	Cumulative Remedies	29
	19.4	Mitigation of Damage	29
20.		Asset Based Lending Financing	29
21.		Surrender of Premises	30
22.		Holding Over	31
23.		Certain Rights Reserved by Landlord	31
	23.1	Building Operations	31
	23.2	Security	31
	23.3	Prospective Purchasers and Lenders	31
	23.4	Prospective Tenants	31
24.		Substitution Space	32
25.		Miscellaneous	32
	25.1	Landlord Transfer	32
	25.2	Landlord's Liability	32
	25.3	Force Majeure	32
	25.4	Brokerage	33
	25.5	Estoppel Certificates	33
	25.6	Notices	33
	25.7	Separability	33

25.8	Amendments; Binding Effect; No Electronic Records	33
25.9	Counterparts	33
25.10	Quiet Enjoyment	34
25.11	No Merger	34
25.12	No Offer	34
25.13	Entire Agreement; No Reliance	34
25.14	Governing Law	34
25.15	Recording	34
25.16	Water or Mold Notification	34
25.17	Joint and Several Liability	34
25.18	Financial Reports	35
25.19	Landlord's Fees	35
25.20	Telecommunications	35
25.21	Confidentiality	35
25.22	Authority	36
25.23	Hazardous Materials	36
25.24	List of Exhibits	37
25.25	Time of the Essence	37
25.26	Planning Act	37
25.27	Currency	37
25.28	Cross Default	37
26.	Other Provisions	37
26.1	Building Directory Lobby Signage	37
26.2	Monument Signage	38
26.3	Building Fascia Signage	38
26.4	Flag Signage	38
26.5	Attorneys' Fees	39
26.6	Tenant's Cancellation Right	39
26.7	Security System	39

26.8	Guarantee	39
26.9	New Buildings Lease	40
26.10	Arbitration Regarding Additional Rent	40
26.11	No Operating Covenant	40
26.12	Exercise of Approval Rights	41
26.13	Landlord's Default	41
26.14	Roof Rights	42
26.15	Landlord's Representations and Warranties	43
26.16	Competing Tenants	45

LIST OF DEFINED TERMS

	<u>Page No.</u>
ABL Financing	30
ABL Lender	30
Additional Rent	ii
Affiliate	1
After reasonable inquiry	F-2
Amortization Rate	5
Amortization Threshold	5
Application For Payment	E-4
Approval Criteria	E-3
Approved Contractor	E-3
Architect	E-1
Basic Lease Information	1
Basic Rent	i
Building	i
Building Sign	38
Building's Structure	1
Building's Systems	1
Business Taxes	6
Capital Work	10
Casualty	25
Change of Control	15
Commencement Date	i
Construction Allowance	E-4
Control	1
Controlled	1
Controlling	1
Corporate Debt Rating	20
Damage Notice	25
Default Rate	8
Delivery Date	2

Designated Offer Space	J-1
Designated Refusal Space	P-1
Eligible Capital Expenditures	4
Event of Default	26
Excess Amount	E-4
Excluded Damages	32
Excluded Structural Costs	4
Failure Notice	E-5
First Must-Take Commencement Date	i
First Must-Take Space	i
Flag Signage	39
GAAP	20
Governmental Authority	1
Guarantor	K-1
Guarantor Change	K-2
Hazardous Materials	36
Head Lease	44
including	1
Initial Premises	i
Land	i
Landlord	i
Landlord Party	33
Landlord Repair Obligations	9
Landlord's Capital Work Notice	10
Landlord's Mortgagee	23
Landlord's Personnel	45
Landlord's Representatives	45
Law	1
Laws	1
Lease	1
Lease Date	i
Lease Month	ii
Loss	23

Minimum Construction Allowance	E-4
Minimum Renewal Rate	I-1
Monument Sign	38
Moody's	20
Mortgage	23
New Buildings Lease	40
Normal Building Hours	1
Notice of Lease	34
Offer Notice	J-1
Offer Space	J-1
Operating Costs	3
Original Tenant	17
Parking Area	H-1
Performance Standard	9
Permitted Guarantor Change	K-2
Permitted Occupant	20
Permitted Transfer	19
Permitted Transferee	19
Permitted Use	ii
Phase	E-2
Premises	i
Prevailing Rental Rate	I-1
Primary Competitors	45
Primary Lease	23
Prime Rate	8
Project	i
Property Management Fee	7
Qualified Engineer	1
Reconciliation Statement	7
Refusal Notice	P-1
Refusal Space	P-1
Related complex	3

Release	36
Removal Notice	30
Rent	ii
Repair Period	25
Retainage	E-4
S&P	20
Sales Taxes	8
Second Must-Take Commencement Date	i
Second Must-Take Space	i
Second Notice	42
Security Deposit	ii
Shared Facilities	9
Sign Requirements	38
Space Plans	E-1
Standard Improvements	30
Substantial Completion	E-4
Substantially Completed	E-4
Substitute Tenant	29
Taking	24
Tangible Net Worth	20
Taxes	6
Telecom Equipment	42
Telecommunications Services	35
Tenant	i
Tenant Party	1
Tenant's Capital Work Notice	10
Tenant's Off-Premises Equipment	1
Tenant's Proportionate Share	ii
Tenant-Caused Replacements	1
Term	i
Third Party Offer	J-1
Time Limit	41
Total Construction Costs	E-4
Transfer	15
Unavoidable Delay	33
Waiver of distress agreement	30

LEASE

This Lease Agreement (this “Lease”) is entered into as of the Lease Date between Landlord and Tenant (as each such term is defined in the Basic Lease Information).

1. **Definitions and Basic Provisions**. The definitions and basic provisions set forth in the Basic Lease Information (the “**Basic Lease Information**”) are incorporated herein by reference for all purposes. Additionally, the following terms shall have the following meanings when used in this Lease: “**Affiliate**” means, in respect of a person or entity, any other person or entity that Controls, is Controlled by or is under common Control with such first mentioned person or entity; “**Building’s Structure**” means the Building’s roof and roof membrane, elevator shafts, footings, foundations, structural portions of load-bearing walls, the exterior surface of exterior walls and curtain walls (including exterior windows), structural floors and subfloors, and structural columns and beams; “**Building’s Systems**” means the Building’s HVAC, chilled water, life-safety, plumbing, electrical, mechanical and elevator systems; “**Control**” means in respect of a person or entity: (a) the ownership, directly or indirectly, of voting shares or interests in such person or entity carrying more than 50% of the votes attached to all voting shares or interests of such person or entity; or (b) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or entity, whether through ownership of voting shares or interests by contract or otherwise; and “**Controlled**” and “**Controlling**” have corresponding meanings; “**Governmental Authority**” means any federal, provincial, municipal or local government, regulatory authority, government agency, ministry, department, minister, director, commission, board, tribunal or court having jurisdiction in respect of the Premises; “**including**” means including, without limitation; “**Laws**” means all applicable federal, provincial, municipal and local laws, statutes, regulations, ordinances, by-laws, codes and all orders, directives and decisions rendered by, and any policies, guidelines or similar guidance or requirements of any Governmental Authority (in each case having the force of law) and any requirements or obligations arising under the common law and all restrictive covenants affecting the Project (Landlord shall not grant, permit or consent to any restrictive covenants or any other encumbrances affecting the Project or any part thereof which would have the effect of prohibiting, limiting, restricting or impeding in any material respect any of Tenant’s Permitted Uses of the Premises or otherwise its use and enjoyment thereof and Tenant shall have no obligation to comply with same, provided, however, the foregoing shall not limit or otherwise apply to Landlord’s ability to finance the Project and execute customary encumbrances related thereto), and “**Law**” means any of the foregoing; “**Normal Building Hours**” shall mean the hours between 8:00 a.m. to 6:00 p.m. on weekdays and between 8:00 a.m. to 1:00 p.m. on Saturdays (in each case other than holidays); “**Qualified Engineer**” shall mean a structural, electrical, systems, or mechanical engineer, as appropriate for the task, and mutually approved by Landlord and Tenant (or otherwise selected as more particularly described in Section 7.4.2), licensed in the Province of Ontario, with a minimum of ten (10) years of practice experience; “**Tenant-Caused Replacements**” shall mean (1) any alteration of or modification to the Premises performed by any Tenant Party or to special equipment or systems installed by any Tenant Party, (2) the installation, use or operation of any property, fixtures and equipment of any Tenant Party, (3) the moving of any property of any Tenant Party in or out of the Building, (4) repairs or replacements resulting from the use or occupancy of the Premises in violation of the Lease, or (5) repairs or replacements resulting from the acts or omissions of Tenant or any other Tenant Party other than normal wear and tear, and save and except to the extent provided in the waiver of subrogation provisions in Section 11.3; “**Tenant’s Off-Premises Equipment**” means any of Tenant’s equipment or other property that may be located on or about the Project or the related complex (other than inside the Premises); and “**Tenant Party**” means any of the following persons: Tenant; any assignees claiming by, through, or under Tenant; any subtenants claiming by, through, or under Tenant; and any of their respective agents, contractors, officers, employees, licensees, guests and invitees.

2. **Lease Grant**. Subject to the terms of this Lease, Landlord leases to Tenant, and Tenant leases from Landlord, the Premises. Additionally, so long as Tenant leases the entirety of the Building, Tenant shall have exclusive access to and use of the other elements of the Project which service the Premises (e.g., basketball courts, generator areas, drive aisles, loading/shipping/receiving areas, storage areas inside the Building, etc.), subject to the rights of Landlord and Landlord Parties to access and use such areas in the undertaking of Landlord’s obligations under this Lease and subject to any rights of access in favor of third parties over the applicable parts of the Project as set out in those instruments registered on title to the Land as of the date hereof and to which the Project is subject.

3. **Tender of Possession**. Landlord shall tender possession of the entire Project to Tenant on the earlier to occur of (a) the date that is 30 days following Landlord's receipt of written notice from Tenant requesting that Landlord tender possession of the entire Project to Tenant and (b) January 1, 2015 (such earlier date being referred to herein as the "**Delivery Date**"). Tenant shall be deemed to have accepted the entire Project in their condition as of the Delivery Date subject to the obligations of Landlord under this Lease. After the occurrence of the Delivery Date, the Commencement Date, the First Must-Take Commencement Date and the Second Must-Take Commencement Date, and within 10 business days after Landlord's written request therefor, Tenant shall execute and deliver to Landlord a letter substantially in the form of **Exhibit F** hereto confirming (A) the Delivery Date, the Commencement Date, First Must-Take Commencement Date and/or the Second Must-Take Commencement Date, as applicable, and the expiration date of the initial Term, (B) with respect to the initial confirmation letter confirming the Delivery Date, that Tenant has accepted the entire Project, and (C) that to the best of Tenant's knowledge (and without limiting Tenant's rights under this Lease), Landlord has performed all of its obligations with respect to the entire Project as of such date; however, the failure of the parties to execute such letter shall not defer the Delivery Date, the Commencement Date, First Must-Take Commencement Date and/or the Second Must-Take Commencement Date or otherwise invalidate this Lease. Entry into the Premises by any Tenant Party on or prior to the Delivery Date shall be subject to all of the provisions of this Lease excepting only those requiring the payment of Basic Rent and Additional Rent and Tenant's repair and maintenance obligations. Entry into the Premises by any Tenant Party between the Delivery Date and the Commencement Date shall be subject to all of the provisions of this Lease excepting only those requiring the payment of Basic Rent and Additional Rent; provided, however, Tenant's repair and maintenance obligations shall commence as of the Delivery Date. For the avoidance of doubt, Tenant's obligations with respect to the payment of Basic Rent and Additional Rent shall not commence until the occurrence of the Commencement Date. Notwithstanding any other provision of this Lease, Landlord covenants and agrees that it shall deliver or cause to be delivered the entire Project on the Delivery Date in a vacant, clean and broom swept condition. The parties acknowledge and agree that the undertaking of Tenant's Work in the Premises or any part thereof does not in and of itself constitute material occupancy of all or any portion of the Premises, nor the conduct of business by Tenant for the purpose of determining the occurrence of the Commencement Date, the First Must-Take Commencement Date and the Second Must-Take Commencement Date, as the case may be. From and after the Lease Date and subject to the terms and provisions of this Lease, Landlord shall maintain and operate the Project in substantially the same manner as prior to the Lease Date pursuant to its normal course of business.

4. **Rent**.

4.1 **Payment**. Commencing from and after the occurrence of the Commencement Date, the First Must-Take Commencement Date and the Second Must-Take Commencement Date in respect of the subject parts of the Premises, Tenant shall timely pay to Landlord Rent, without notice, demand, deduction or set off (except as otherwise expressly provided herein), by good and sufficient check drawn on a Schedule I, II or III Bank under the *Bank Act (Canada)* (or its successor legislation), or, at either party's election, by electronic funds transfer, at Landlord's address provided for in this Lease or such other address as may be specified in writing by Landlord and shall be accompanied by all applicable provincial and local sales or use taxes. The obligations of Tenant to pay Rent to Landlord and the obligations of Landlord under this Lease are independent obligations. Basic Rent, adjusted as herein provided, shall be payable monthly in advance. The first monthly installment of Basic Rent is due in respect of the Initial Premises on or prior to the Commencement Date and thereafter, Basic Rent shall be payable on the first day of each calendar month from and after the Commencement Date, the First Must-Take Commencement Date and the Second Must-Take Commencement Date, as applicable. The monthly Basic Rent for any partial month at the beginning of the Term shall equal the product of 1/365 of the annual Basic Rent in effect during the partial month and the number of days in the partial month, and such Basic Rent payment is due upon the Commencement Date. Payments of Basic Rent for any fractional calendar month at the end of the Term shall be similarly prorated. Tenant shall pay to Landlord monthly installments of Additional Rent in advance on the first day of each calendar month following each applicable commencement date and otherwise on the same terms and conditions described above with respect to Basic Rent. Unless a shorter time period is specified in this Lease, all payments of miscellaneous Rent charges hereunder (that is, all Rent other than Basic Rent and Additional Rent) shall be due and payable within 30 days following Landlord's delivery to Tenant of an invoice therefor.

4.2 Additional Rent

4.2.1 Operating Costs. From and after the Commencement Date, Tenant shall pay to Landlord Tenant's Proportionate Share of Operating Costs. Landlord may make a good faith estimate of Operating Costs to be due by Tenant for any calendar year or part thereof during the Term. During each calendar year or partial calendar year of the Term, Tenant shall pay to Landlord, in advance concurrently with each monthly installment of Basic Rent, an amount equal to Tenant's estimated Operating Costs for such calendar year or part thereof divided by the number of months therein. From time to time, Landlord may estimate and re-estimate (but Landlord may not re-estimate more than twice in any calendar year) the Operating Costs to be due by Tenant and deliver a copy of the estimate or re-estimate to Tenant. Thereafter, the monthly installments of Operating Costs payable by Tenant shall be appropriately adjusted in accordance with the estimations so that, by the end of the calendar year in question, Tenant shall have paid all of the Operating Costs as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when actual Operating Costs are available for each calendar year.

4.2.2 Operating Costs Defined. The term "Operating Costs" means all costs, expenses and disbursements (subject to the limitations set forth below) that Landlord incurs (without duplication) in connection with the ownership, operation, and maintenance of the Project and performing Landlord's obligations under this Lease, in each case, determined in accordance with sound accounting principles consistently applied, including the following costs: (A) Landlord's reasonable allocation of wages and salaries of all employees at or below the grade of general manager engaged to perform Landlord's rights and obligations under this Lease and supervise Tenant's obligations under this Lease (including accounting personnel), including taxes, insurance and benefits relating thereto; (B) all supplies, materials and computer software licenses used in the operation, maintenance, repair, replacement, and security of the Project; (C) insurance expenses, including the cost of any commercially reasonable deductibles; (D) repairs, replacements, and general maintenance of the Project performed by or on behalf of Landlord pursuant to this Lease; (E) service and maintenance fees (payable to Landlord, Landlord's affiliate or a third-party management company) for the operation, maintenance, management, repair, replacement, or security of the Project performed by or on behalf of Landlord pursuant to this Lease (including window cleaning); and (F) assessments and charges from any applicable property owner's association or under any restrictive covenant, declaration of covenants, restrictions and easements or other similar private agreement. Operating Costs and Taxes for the multi-building complex of which the Building is a part, consisting of the Building, the two buildings to be constructed by Landlord in accordance with the New Buildings Lease (defined below), and, to the extent owned by Landlord or one of its Affiliates, the building located at 4000 Innovation Drive, Ottawa, Ontario K2K 2X1 (collectively, the "related complex") shall be prorated and allocated equitably among the Project and the other buildings of the related complex, as reasonably determined by Landlord in compliance with the terms of this Lease. Landlord and Tenant acknowledge that the Land is in the process of being subdivided in accordance with the reference plan attached hereto as Exhibit A. To the extent the subdivision process is not finalized prior to the Lease Date, Operating Costs and Taxes shall exclude Operating Costs and Taxes attributable to that portion of the Land subject to future development that is subject to such subdivision.

Operating Costs shall not include (i) costs for general maintenance paid by proceeds of insurance (or which would have been covered by insurance if Landlord had carried the insurance required under Section 11.2 of this Lease) and any other amounts recovered by Landlord or the owner of the Land from a third party, including input tax credits, expropriation awards, refunds, guarantees or warranties; (ii) interest, fees, penalties, amortization or other payments on loans to Landlord or on any other amounts owing by Landlord on loans to Landlord; (iii) depreciation; (iv) leasing commissions; (v) legal expenses for services, other than those that benefit the Project tenants generally (e.g., tax disputes and negotiation of vendor contracts); (vi) Taxes; (vii) any income taxes, including those imposed on or measured by the income of Landlord from the operation of the Project (including, without limitation, capital taxes); (viii) any advertising, marketing or promotional expenses, commissions, incentives, inducements, allowances and other costs in connection with the leasing of any available space for prospective tenants; (ix) reserves for Operating Costs; (x) the cost to Landlord of any work or services performed in any instances for any tenant (including Tenant) at the sole cost of such tenant (including Tenant); (xi) expenses incurred in connection with any financing, sale or syndication of the

Project or any part(s) thereof; (xii) Landlord's general corporate overhead and general administrative expenses not directly related to the operation, management or maintenance of the Project; (xiii) any fines or penalties incurred due to violations by Landlord of any Laws, governmental rule or authority; (xiv) costs of investigation, remediation or removal of Hazardous Materials pursuant to Laws in existence (and as interpreted) as of the Lease Date or arising thereafter to the extent not caused or contributed to by any Tenant Party; (xv) cost of repairs, alterations or replacements caused by the exercise of rights of expropriation, condemnation or eminent domain; (xvi) any expense or costs associated with bringing the Project into compliance with any Law in effect and applicable to the Project as of the Lease Date; (xvii) compensation paid to any employee of Landlord above the grade of general manager; (xviii) costs relating to maintaining Landlord's corporate existence; (xix) any base rent or other payments under any ground lease, other than pass-through expenses and taxes that would be included in the definition of Operating Costs or Taxes under this Lease; (xx) fees or other compensation paid to subsidiaries or Affiliates of Landlord for services on or to the Project to the extent that the costs of such services exceed competitive costs of such services; (xxi) political and charitable contributions; (xxii) the original or any future development costs of the Building, the Project and the related complex (including, for certainty, all costs incurred by or on behalf of Landlord or the owner of the Land in satisfying its or their initial construction-related obligations under any site plan agreement, site development, servicing agreement or other similar development agreement registered or affecting title to the Land or any other part of the related complex) and any other costs and expenses allocable to any lands held for future development; (xxiii) all costs, expenses, damages, fines and penalties for which Landlord is liable by reason of the negligence or willful act or omission of Landlord or those for whom it is in law responsible or by reason of any breach or violation by Landlord of any covenant, term or provision contained in the Lease or any other agreements entered into by Landlord in respect of the Project or the related complex (other than commercially reasonable insurance deductibles, which may be included in Operating Costs); (xxiv) Landlord's general corporate overhead and general administrative expenses associated with the operation of the business of the ownership or entity which constitutes "Landlord" as distinguished from the costs of Project operations, management or maintenance; (xxv) any capital expenditures other than those permitted pursuant to Section 4.2.3 below; (xxvi) the cost of any replacements to the Building's Structure (other than the roof or roof membrane), except only where such replacements are occasioned by Tenant-Caused Replacements (the "**Excluded Structural Costs**"); and (xxvii) to the extent not caused or contributed to by any Tenant Party, the costs of undertaking the Landlord Repair Obligations (defined below).

4.2.3 **Capital Expenditures**. Operating Costs shall also include the following (collectively, the "**Eligible Capital Expenditures**"), the cost of which shall be included in Operating Costs in the year in which costs were paid or incurred by Landlord except as otherwise provided herein:

- (a) Any costs for repairs, replacements and improvements made to the Project which are reasonably expected to reduce the normal operating costs (including all utility costs) of the Project;
 - (b) Any costs incurred in order to comply with any Law promulgated by any governmental authority after the Lease Date, or any amendment to or any interpretation (to the extent a governmental authority is then enforcing such interpretation) rendered after the Lease Date with respect to any existing Law that has the effect of changing the legal requirements applicable to the Project from those in effect as of the Lease Date;
 - (c) Any costs incurred after the tenth anniversary of the Commencement Date associated with replacement of the roof and roof membrane; and
 - (d) Any costs for repairs, replacements and improvements made to the Project which may be considered to be a capital expenditure other than those identified in Sections 4.2.3(a), 4.2.3(b) or 4.2.3(c) above which, on a per item basis, cost less than \$100,000, exclusive of applicable taxes (which amount shall be increased by 10% at the end of every five-year period) (including all reasonable associated and related expenditures for consulting fees, permits, installment payments, etc.) (provided that Landlord shall not perform repairs, replacements and/or improvements in stages
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as a means to subvert this provision). If any Eligible Capital Expenditure identified in Section 4.2.3(a) above is in excess of the Amortization Threshold (defined below), the cost of such Eligible Capital Expenditure shall be amortized using the Amortization Rate over the time period reasonably estimated by Landlord to recover the costs thereof taking into consideration the anticipated cost savings, as determined by Landlord using its good faith, commercially reasonable judgment having regard to the principles and practices hereinafter set out in the following sentence. If any of the Eligible Capital Expenditures identified in Sections 4.2.3(b), 4.2.3(c), or 4.2.3(d) above are in excess of the Amortization Threshold, the cost of such Eligible Capital Expenditures shall be amortized using the Amortization Rate over the useful economic life of the item as determined by Landlord using its good faith and commercially reasonable judgment and such annual amortized amount may be included by Landlord in Operating Costs in the applicable year. As used herein, “ **Amortization Threshold** ” means the costs of the expenditure in question are in the aggregate, including all associated and related expenditures for consulting fees, permits, installment payments, etc., but excluding all applicable taxes thereon, in excess of \$100,000 (which amount shall be increased by 10% at the end of every five-year period). As used herein, “ **Amortization Rate** ” means an annual interest rate equal to the greater of (1) the Prime Rate (defined below) plus 2% and (2) 7%.

4.2.4 **Taxes; Taxes Defined**.

(a) From and after the Commencement Date, Tenant shall also pay Tenant’s Proportionate Share of Taxes for each year and partial year falling within the Term. Tenant shall pay Tenant’s Proportionate Share of Taxes in the same manner as provided above for Tenant’s Proportionate Share of Operating Costs. Tenant will pay to Landlord as Additional Rent in each calendar during the Term: (1) Tenant’s Proportionate Share of Taxes which shall be determined in accordance with this Section 4.2.4; and (2) any fines, penalties, interest or late payment charges incurred by Landlord solely as a result of Tenant’s failure to pay installments of Additional Rent on account of Taxes when due in accordance with this Section 4.2.4 so as to allow Landlord to make payment of Taxes as and when due.

(b) In the event that a separate assessment is not available for the Project and it is necessary to allocate Taxes between the Project and the related complex, Landlord shall make such allocation, acting reasonably, equitably and consistently with prevailing assessment principles, and the amount so allocated shall be deemed to be included in the Taxes, unless such allocation is shown by Tenant and found by a court of competent jurisdiction to be unreasonable, erroneous or not in compliance with the requirements of this Section 4.2.4. For the purposes of determining the amount of Taxes referred to in Subsection 4.2.4(a) and this Subsection 4.2.4(b), there shall be deducted from the Taxes, as otherwise calculated, any amounts that are charged directly to Tenant pursuant to Sections 4.2.4(e)(1) and (2).

(c) The provisions of Subsection 4.2.4(a) and Subsection 4.2.4(b) shall be applicable regardless of whether there are separate realty tax bills or separate real property assessment notices issued by any lawful taxing authority in respect of the Project. Tenant and Landlord shall promptly provide the other with a copy of any separate tax bills and separate assessment notices for the Project, or any part thereof that it receives. Whenever reasonably requested by Tenant, Landlord shall forthwith provide Tenant with a copy of any tax bills and assessment notices for the Project, or any part thereof, that Landlord receives and such other information in the possession or control of Landlord in connection with such Taxes as Tenant reasonably requires; copies of any such tax bills and assessment notices shall be delivered in each case within 15 business days after Tenant requests such documents.

(d) Landlord may from time to time by written notice to Tenant, estimate or re-estimate (but Landlord may not re-estimate more than twice in any calendar year) the Taxes for the current or upcoming calendar year. The amounts so estimated will be payable by Tenant in equal monthly installments on the same days and in the same manner as the payments of Basic Rent

hereunder. Landlord's estimate of the Taxes or the installments thereof payable by Tenant hereunder may be such that, by the due date of the last installment of Taxes payable to the relevant taxing authority in any calendar, Landlord will have received from Tenant the full amount of the Taxes for such calendar year. Promptly following receipt of the final bill for Taxes for the period for which the estimated payments of Taxes have been made (and not more than 30 days thereafter), Landlord will give notice to Tenant of the exact amount of Taxes (together with copies of the relevant tax bills) and, if necessary, an adjustment will be made between the parties within 60 days after such notice.

(e) Tenant shall pay promptly to the relevant taxing authority as and when due, all business taxes, license fees, permit fees and other taxes, rates, duties, levies, assessments or charges, whether municipal, parliamentary or otherwise, levied, imposed or assessed in respect of the use or occupancy of, the operations at or any business carried on in or from the Premises by Tenant or any other Tenant Party (other than Landlord or its property manager) or the equipment, machinery or fixtures brought therein by or belonging to Tenant or any other Tenant Party (other than Landlord or its property manager) (collectively, "**Business Taxes**"). Tenant shall also pay to Landlord upon demand as Additional Rent the following Taxes which Landlord may elect to recover from Tenant pursuant to this Section 4.2.4(e), in which case any amounts so paid by Tenant shall be excluded in the determination of the Taxes pursuant to Section 4.2.4(a):

(1) the portion of any Taxes levied or assessed upon the Project that is attributable to any equipment, machinery, fixtures or leasehold improvements on or in the Premises; and

(2) if the Premises, or any part of them, by reason of the act, election or religion of Tenant or any other Tenant Party shall be assessed for the support of separate schools, the amount by which the Taxes so payable exceed those which would have been payable if the Premises had been assessed for the support of public schools.

(f) Tenant shall deliver to Landlord: (1) whenever reasonably requested by Landlord, satisfactory evidence that all Business Taxes have been paid on or before their due date; and (2) any other information relating to Taxes or Business Taxes in Tenant's possession that Landlord reasonably requests from time to time.

(g) "**Taxes**" means all taxes, rates, duties, levies, fees, charges (including local improvement charges) and assessments of any kind and nature whatsoever, which are levied, imposed, assessed or charged from time to time by any lawful taxing authority, whether school, municipal, regional, provincial, federal or otherwise, against or in respect of the Project or any part thereof applicable to any time during the Term, or upon Landlord or any other person or entity on account of its ownership of, or interest in, the Project or any part thereof, but excluding: (A) development charges, levies, assessments, fees and other similar development related payments (such as, but without limitation, parkland dedication fees); (B) taxes on the income or profits of Landlord or any other person or entity having an interest in the Project (inclusive of capital taxes), and Sales Taxes, except in each case to the extent they are levied in lieu of or in addition to "Taxes"; and (C) fines, penalties, interest or late payment charges unless the same are payable as a result of Tenant's delinquency in payment of any Additional Rent. However, if the present method of taxation changes so that in lieu of or in addition to the whole or any part of any Taxes, there is levied on Landlord a capital tax directly on the rents or revenues received therefrom or a franchise tax, margin tax, assessment, or charge based, in whole or in part, upon such rents or revenues for the Project, then all such taxes, assessments, or charges, or the part thereof so based, shall be deemed to be included within the term "Taxes" for purposes hereof. Taxes shall include the commercially reasonable costs of consultants retained in an effort to lower taxes and all costs incurred in disputing any Taxes or in seeking to lower the tax valuation of the Project. For property tax purposes, Tenant waives all rights to protest or appeal the appraised value of the Premises, as well as the Project except as provided below, and all rights to receive notices of reappraisal Landlord shall engage an independent and

reputable tax consultant each year to determine whether it is in the best interest to contest Taxes for the year in question, and if such tax consultant determines it is in the best interest to contest Taxes, Landlord will contest Taxes for the year in question. If Landlord, after consultation with Landlord's tax consultant, elects not to contest Taxes for the period in question, Landlord shall notify Tenant in writing. If Tenant, in consultation with Tenant's tax consultant, reasonably and in good-faith believes contesting Taxes will reduce Taxes for the period in question and Landlord has elected not to contest Taxes for the applicable year, Tenant may elect, at its sole expense, to contest Taxes for the period in question and shall so notify Landlord thereof in writing. Nothing herein shall be deemed to limit, suspend or abate Tenant's obligations to pay Taxes when due. In the event that Landlord is entitled to the benefit of and actually receives any incentives, rebates, inducements or other payments from any person or governmental authority on account or in respect of Taxes pertaining to the Project and attributable to Tenant, Landlord shall reasonably and equitably allocate all or the applicable share thereof to Tenant and such amount shall be deducted from Tenant's obligations to pay Taxes herein. "Taxes" shall not include Taxes payable with respect to any undeveloped lands (it being acknowledged and agreed that parking and landscaped areas forming a part of and servicing the Project do not constitute undeveloped lands).

4.2.5 **Property Management Fee**. Tenant shall pay to Landlord a property management fee equal to \$50,000 per year (which amount shall be increased by 10% every five years), payable in advance in equal monthly installments with each monthly installment of Basic Rent (the "**Property Management Fee**").

4.2.6 **Reconciliation Statement**. Landlord shall use its commercially reasonable efforts to furnish to Tenant by June 30 of each calendar year a statement of Operating Costs for the previous year (together with reasonable supporting documentation) and of the Taxes for the previous year (the "**Reconciliation Statement**"). If Tenant's estimated payments of Operating Costs or Taxes under this Section 4.2 for the year covered by the Reconciliation Statement exceed Tenant's Proportionate Share of such items as indicated in the Reconciliation Statement, then Landlord shall credit or reimburse Tenant for such excess within 30 days after Landlord furnishes the Reconciliation Statement to Tenant; likewise, if Tenant's estimated payments of Operating Costs or Taxes under this Section 4.2 for such year are less than Tenant's Proportionate Share of such items as indicated in the Reconciliation Statement, then Tenant shall pay Landlord such deficiency within 30 days of invoice from Landlord.

4.2.7 **Tenant Inspection Right**. Provided no Event of Default then exists, after receiving an annual Reconciliation Statement and giving Landlord 30-days' prior written notice thereof, Tenant may inspect or audit Landlord's records relating to Additional Rent (including the allocation percentages of the amounts described in Section 4.2.2(A) above) for the period of time covered by such Reconciliation Statement in accordance with the following provisions. If Tenant fails to object to the calculation of Additional Rent on an annual Reconciliation Statement within 90 days after the statement or any supplement thereto has been delivered to Tenant, or if Tenant fails to conclude its audit or inspection within 180 days after the statement has been delivered to Tenant, then Tenant shall have waived its right to object to the calculation of Additional Rent for the year in question and the calculation of Additional Rent set forth on such statement shall be final. Landlord shall not be entitled to supplement or readjust any amount set out in a Reconciliation Statement twenty-four (24) months after the statement or any supplement thereto has been delivered to Tenant;. Tenant's audit or inspection shall be conducted where Landlord maintains its books and records or at the written request of Tenant, Landlord shall provide all relevant information electronically, if available, to Tenant, shall not unreasonably interfere with the conduct of Landlord's business, and shall be conducted only during business hours reasonably designated by Landlord. Tenant shall pay the cost of such audit or inspection, unless the total Additional Rent for the period in question is determined to be overstated by more than 5% in the aggregate, in which case Landlord shall pay the audit cost (not to exceed \$15,000). Tenant may not conduct an inspection or have an audit performed more than once during any calendar year. Tenant or the accounting firm conducting such audit shall, at no charge to Landlord, submit its audit report in draft form to Landlord for Landlord's review and comment before the final approved audit report is submitted to Landlord, and Tenant shall consider any reasonable comments by Landlord. If such inspection or audit reveals that an error was made in the

Additional Rent previously charged to Tenant, then Landlord shall refund to Tenant any overpayment of any such costs, or Tenant shall pay to Landlord any underpayment of any such costs, as the case may be, within 30 days after notification thereof. Tenant shall maintain the results of each such audit or inspection confidential (save and except as required by Law or disclosed to Tenant's consultants, attorneys, agents or to any other Tenant Party who agrees in writing with Landlord to maintain such information confidential) and shall not be permitted to use any third party to perform such audit or inspection, other than an independent firm of certified public accountants (a) reasonably acceptable to Landlord, (b) which is not compensated on a contingency fee basis or in any other manner which is dependent upon the results of such audit or inspection (and Tenant shall deliver the fee agreement or other similar evidence of such fee arrangement to Landlord upon request), and (c) which agrees with Landlord in writing to maintain the results of such audit or inspection confidential. Nothing in this Section 4.2.7 shall be construed to limit, suspend or abate Tenant's obligation to pay Rent when due, including Additional Rent.

4.3 **Sales Taxes**. Tenant will pay to Landlord with each payment of Rent all Sales Taxes applicable to, calculated on or in respect of amounts payable by Tenant as Rent under this Lease. Notwithstanding that Sales Taxes are not Rent, Landlord shall have all of the same rights and remedies for recovery of Sales Taxes as it has for recovery of Rent under this Lease. "**Sales Taxes**" means any and all harmonized sales taxes (other than harmonized sales taxes on the Construction Allowance, which shall be paid by Landlord), goods and services taxes, value added taxes, sales taxes, use or consumption taxes or any other similar taxes of whatever name or description, whether or not in existence at the Lease Date, now or hereafter imposed, levied, rated, charged or assessed by any lawful taxing authority on Tenant or Landlord in respect of Rent payable under this Lease, the rental of space under this Lease or the provision or supply of any goods, services or utilities whatsoever to Tenant under this Lease. However, notwithstanding any other provision of this Lease, Tenant shall have no obligation to pay to Landlord any Sales Taxes in respect of which Landlord is entitled to and actually receives an input tax credit.

4.4 **Net Lease**. Except as otherwise expressly provided in this Lease, this Lease shall be completely net and carefree to Landlord during the Term, and Landlord shall not be responsible during the Term for any costs, charges, expenses or outlays of any nature whatsoever arising from or relating to the Project, except as otherwise expressly provided in this Lease, and save as aforesaid, Tenant shall pay all charges, taxes, impositions, costs and expenses of every nature and kind arising from or relating to the Project, the occupation and use of the Premises by any Tenant Party and the business carried on therein or therefrom, whether or not referred to herein and whether or not within the contemplation of Landlord or Tenant and Tenant covenants with Landlord accordingly.

4.5 **Additional Rent – Adjustment**. If the Term begins on a day other than the first day of a calendar month or ends on a day other than the last day of a calendar month, the Additional Rent payable for such month shall be prorated on a per diem basis over the number of days in the year.

5. **Delinquent Payment; Handling Charges**. All payments required of Tenant hereunder that are more than five days past due shall bear interest from the date due until paid at the lesser of (a) the annual rate of interest announced from time to time by Royal Bank of Canada or such other Schedule I Canadian chartered bank as may be designated by Landlord, as the daily rate of interest used by such bank as a reference rate in setting rates of interest for commercial loans of Canadian dollars and commonly referred to by such bank as its Canadian "prime rate" (the "**Prime Rate**") plus five percent per annum or (b) the maximum lawful rate of interest (such lesser amount is referred to herein as the "**Default Rate**"); additionally, Landlord, in addition to all other rights and remedies available to it, may charge Tenant a late fee equal to the greater of (1) five percent of the delinquent payment, or (2) \$250, to reimburse Landlord for its cost and inconvenience incurred as a consequence of Tenant's delinquency. In no event, however, shall the charges permitted under this Section 5 or elsewhere in this Lease, to the extent they are considered to be interest under applicable Laws, exceed the maximum lawful commercial rate of interest. Notwithstanding the foregoing, the late fee referenced above shall not be charged with respect to the first occurrence (but not any subsequent occurrence) during any 12-calendar month period that Tenant fails to make any payment of Additional Rent when due, until five days after Landlord delivers written notice of such delinquency to Tenant.

6. **Security Deposit**. [Intentionally Deleted.]

7. **Landlord's Obligations**.

7.1 **Services**. Landlord shall (subject to force majeure) furnish to Tenant and the Premises during the Term and any extension thereof such exterior window washing (on both the interior and exterior surface of all such exterior windows) as may from time to time be reasonably required.

7.2 **Repair and Maintenance by Landlord**. Landlord shall (a) maintain, repair and, if necessary, replace the exterior portions of the Building's Structure, including all caulking, sealing, and water proofing and undertake any other replacement to the Building's Structure; (b) maintain, repair and, if necessary, replace all Shared Facilities (defined below), in each case in accordance with the Performance Standard (defined below); and (c) undertake or cause to be undertaken the Landlord Repair Obligations (defined below). Tenant shall promptly notify Landlord in writing of any work required to be performed under this Section 7.2 and Section 7.4. All costs in performing the work described in this Section shall be included in Operating Costs except to the extent excluded by Section 4.2 or to the extent the cost of such work constitutes an Excluded Structural Cost. In no event shall Landlord be responsible for alterations to the Building's Structure required by changes to applicable Laws arising from and after the Lease Date (which alterations shall be made, at Landlord's election, either by Landlord at Tenant's sole cost and expense or by Tenant at its sole cost and expense). This Lease is intended to be a net lease and except as expressly provided by this Lease, inclusive of Landlord's maintenance, repair and replacements obligations in this Section 7.2 and Section 7.4, Landlord shall have no obligation, in any manner whatsoever, to repair or maintain the Project (or any equipment associated therewith), whether structural or nonstructural, all of which obligations are intended, as between Landlord and Tenant, to be those of Tenant. Except for Landlord's maintenance, repair and replacements obligations in this Section 7.2 and Section 7.4, Landlord shall have absolutely no obligation to (1) repair, replace or maintain any portion of the Project (or any equipment associated therewith), or (2) to pay any costs or expenses, of any description, associated with the foregoing or the operations of the Project. Notwithstanding anything to the contrary contained in this Lease (except as otherwise expressly provided in Section 7.4), Landlord shall, in its commercially-reasonable and equitable discretion, determine whether, and to the extent, repairs or replacements are the appropriate remedial action; provided, however, except with respect to items that are generally considered routine repair and maintenance, Landlord shall consider any reports and recommendations of independent and reputable consultants. As used herein, "**Performance Standard**" shall mean high quality management practices for Class A office buildings in the former City of Kanata office submarket, in accordance with all Laws, Landlord's commercially reasonable guidelines and, if applicable, meeting or exceeding the applicable manufacturer's suggested preventative maintenance and service standards and, for clarity, the Performance Standard with respect to Tenant's obligations under this Lease shall not include the responsibility to perform any items that are excluded from Operating Costs. "**Landlord Repair Obligations**" means (A) the performance of Landlord's express obligations relating to Hazardous Materials as provided in Section 25.23; (B) all work necessary to address and close off any open work orders or outstanding building permits and any other violations of applicable Laws for which Landlord has received written notice from a Governmental Authority on or before the Lease Date; (C) all obligations in satisfying the initial construction-related obligations of the owner of the Land under any site plan agreement, site development, servicing agreement or other similar development agreement registered or affecting title to the Land or any other part of the related complex; and (D) all work necessary to properly rectify the items set out in **Exhibit Q** hereto. "**Shared Facilities**" shall mean those facilities, utilities, improvements, equipment and installations which service or are for the benefit of the Project together with any other part of the related complex (or any other development), including, access roads, pedestrian sidewalks, landscaped and planted areas, bus kiosks and shelters, roadways and stops, signs, equipment and fixtures, pipes, electrical, plumbing, drainage and any other shared utilities infrastructure. As of the Lease Date, there are no Shared Facilities. Landlord shall complete the obligations listed in clauses (B), (C) and (D) of the definition of Landlord Repair Obligations as soon as possible and in no event later than January 1, 2015. In undertaking such obligations, Landlord shall (i) keep Tenant frequently apprised as to the status thereof and (ii) to the extent that Landlord is undertaking any such obligations between the Delivery Date and January 1, 2015, Landlord shall use all reasonable efforts to minimize any interference with or disruption to Tenant's use and quiet enjoyment of the Premises and the Project, all at Landlord's sole cost and expense.

7.3 **Access**. Subject to the Building rules and regulations attached as Exhibit D hereto and the other provisions of this Lease (including Section 9 hereof), Tenant will be provided access to the Premises 24 hours per day, seven days per week (inclusive of all holidays).

7.4 **Performance of Capital Work**. All work related to Eligible Capital Expenditures, other than Tenant-Caused Replacements (which shall be performed by Tenant at Tenant's sole cost and expense), shall be performed by Landlord. If, during the performance of Tenant's maintenance, repair and replacement obligations under this Lease, Tenant determines that any of the work described in Section 4.2.3(b), 4.2.3(c) or 4.2.3(d) is necessary and will qualify as Eligible Capital Expenditures (such work being referred to herein as "**Capital Work**"), Tenant shall notify Landlord thereof in writing with a reasonably detailed description of the Capital Work that Tenant wishes to have done ("**Tenant's Capital Work Notice**").

7.4.1 If a Tenant's Capital Work Notice has been submitted, Landlord shall, as soon as reasonably practicable (and in no event later than 30 days following receipt of such Tenant's Capital Work Notice), notify Tenant whether Landlord agrees or disagrees that such Capital Work is necessary ("**Landlord's Capital Work Notice**"). If Landlord agrees that such Capital Work is necessary, Landlord shall begin inspections and design work for the Capital Work within 20 business days following the date of Landlord's Capital Work Notice, and construction for the Capital Work shall begin within 90 days following the date of Landlord's Capital Work Notice, or such other time period as the parties may agree in writing.

7.4.2 If a Tenant's Capital Work Notice has been submitted and Landlord does not agree that such Capital Work is necessary or does not agree on the scope of the Capital Work that is required, a Qualified Engineer shall determine the necessity and/or the scope, based on the Performance Standard. Landlord and Tenant shall cooperate in good-faith with each other in selecting the Qualified Engineer. However, if Landlord and Tenant cannot mutually select the Qualified Engineer within ten business days following Landlord's Capital Work Notice, then each of Landlord and Tenant shall nominate an engineer satisfying the requirements of a Qualified Engineer under this Lease within five business days following the expiration of such ten business day period. Within ten business days after the appointment of Landlord's and Tenant's respective engineers, such two engineers shall jointly select a third party engineer satisfying the requirements of a Qualified Engineer under this Lease, and such jointly selected engineer shall serve as the Qualified Engineer hereunder. If one party fails to nominate its respective engineer and deliver written notice thereof to the other party within 15 business days following Landlord's Capital Work Notice, then the other party's selected engineer shall serve as the Qualified Engineer hereunder. The determination of such Qualified Engineer shall be binding on Landlord and Tenant. If the Qualified Engineer determines, in accordance with the Performance Standard, that the Capital Work in question is necessary, inspections and design work for the Capital Work shall begin within 20 business days following such determination, and the construction for the Capital Work shall begin as soon as reasonably possible thereafter, but in no event more than 90 days following such determination or such other time periods as the parties may agree in writing.

7.4.3 Following the determination of the necessity for and/or scope of the Capital Work, if Landlord does not begin construction within 90 days following such determination (or does not pursue the Capital Work diligently and continuously and thereafter complete the Capital Work within a commercially reasonable period of time) Landlord will be deemed to have appointed Tenant to perform such Capital Work. In either case, Landlord shall reimburse Tenant for the Capital Work incurred by Tenant and payable by Landlord under the terms of this Lease within 30 days following receipt of Tenant's reasonably detailed invoice therefor, failing which the provisions of Section 26.13 shall apply.

8. **Improvements; Alterations; Repairs; Maintenance; Utilities; Electricity**.

8.1 **Improvements; Alterations**. Improvements to the Premises shall be installed at Tenant's expense only in accordance with plans and specifications which have been previously submitted to and approved in writing by Landlord, which approval shall be governed by the provisions set forth in this Section 8.1. No alterations or physical additions in or to the Premises may be made without Landlord's prior written consent, which shall not be unreasonably withheld, conditioned or delayed; however, Landlord may withhold its consent to any alteration or addition

that would (a) adversely affect more than to a *de minimis* extent (in the reasonable discretion of Landlord) the Building's Structure or the Building's Systems (including the Project's restrooms), or (b) affect more than to a *de minimis* extent (in the sole but reasonable discretion of Landlord) the exterior appearance of the Project. Tenant shall not install decorations, signs, window or door lettering, or advertising media of any type visible from the exterior of the Premises without the prior written consent of Landlord, which consent may be withheld in Landlord's sole and absolute discretion. Notwithstanding the foregoing, Tenant shall not be required to obtain Landlord's consent for (1) repainting or recarpeting (regardless of the cost), or (2) other alterations, tenant improvements, or physical additions to the Premises which are cosmetic in nature totaling less than \$375,000 (which amount shall be increased by 10% every five years) in any single instance or series of related alterations performed within a six-month period (provided that Tenant shall not perform any improvements, alterations or additions to the Premises in stages as a means to subvert this provision), in each case provided that (A) Tenant delivers to Landlord written notice thereof, a list of contractors and subcontractors to perform the work (and certificates of insurance for each such party) and any plans and specifications therefor prior to commencing any such alterations, additions, or improvements (for informational purposes only so long as no consent is required by Landlord as required by this Lease), (B) the installation thereof does not require the issuance of any building permit or other governmental approval, or involve any core drilling or the configuration or location of any exterior or interior walls of the Building, and (C) such alterations, additions and improvements will not affect (i) the Building's Structure or the Building's Systems, or (ii) the appearance of the exterior of the Building. All alterations, additions, and improvements shall be constructed, maintained, and used by Tenant, at its risk and expense, in accordance with all Laws; Landlord's consent to or approval of any alterations, additions or improvements (or the plans therefor) shall not constitute a representation or warranty by Landlord, nor Landlord's acceptance, that the same comply with sound architectural and/or engineering practices or with all applicable Laws, and Tenant shall be solely responsible for ensuring all such compliance.

8.2 **Repair and Maintenance by Tenant**

8.2.1 **General Maintenance Standards Required of Tenant**. To the extent not a specific Landlord responsibility set forth in Section 7.2 or Section 7.4 above, Tenant shall, at its own cost and expense, maintain, repair and, if necessary, replace, consistent with the Performance Standard, all portions of the Project, including the Building's Systems (whether located inside the Building or on the exterior of the Building, such as rooftop HVAC units, supplemental air conditioning units, chillers, generators, and all utility lines serving the Project), in a clean, safe, and first class condition, consistent with the Performance Standard, and repair and make all necessary repairs and replacements to the Project, whether structural or non-structural, and shall not permit or allow to remain any deferred maintenance, waste or damage to any portion of the Project. All repairs and replacements (a) shall be in quality and class at least equal to the work as of the Commencement Date and (b) subject to Landlord's obligations pursuant to Section 7.2 and Section 7.4, include capital expenditures and repairs whose benefit may extend beyond the Term. Tenant's maintenance, repair and replacement obligations with respect to the Project shall be self-operative and no notice from Landlord shall be required as a pre-condition to the performance thereof by Tenant. For further clarity, except for those items for which Landlord is expressly responsible for under Section 7.2 or Section 7.4, Tenant, at its sole expense, shall, from and after the Delivery Date, maintain, repair, and replace, consistent with the Performance Standards, all portions of the Project, the Building's Systems and Tenant's Off-Premises Equipment and all areas, improvements and systems exclusively serving the Project, including plumbing, electrical, water, fire sprinkler system and fire protection systems, exterior lighting, the sidewalks, curbs, parking areas, access roads, driveways, landscaping, irrigation, vaults and signs comprising the Premises, utility lines (including sewer, water, gas, electrical, telecommunications and all other utility lines, whether above or below grade), entries, doors, door frames, ceilings, interior walls, and the interior side of demising walls, floor slab, and HVAC systems (including all duct work), and other building and mechanical systems serving the Premises, maintenance of the interior flooring (including sealing and waterproofing) and any items normally associated with the foregoing. Tenant shall be responsible for any increased wear and tear, and increased repair, replacement and maintenance with respect to the Building's Systems associated with Tenant's use of the Premises after the Normal Building Hours and Tenant's density within the Premises. If (1) Tenant fails to commence to make such repairs or replacements within 15 business days after the occurrence of the necessity for such repair or replacement and thereafter diligently pursue the completion thereof (or, in the case of an emergency, such shorter period of time as is reasonable given the circumstances), or (2) notwithstanding such

diligence, Tenant fails to complete such repairs or replacements within 45 days after the occurrence of the necessity for such repair or replacement (or, in the case of an emergency, such shorter period of time as is reasonable given the circumstances), in each case subject to the terms of Section 25.3, then Landlord may make the same at Tenant's cost and the cost of such repair or replacement work performed by Landlord, plus an administrative fee of 10% of such cost, shall be paid by Tenant to Landlord within 30 days after Landlord has invoiced Tenant therefor. If any such repair or replacement relates to areas outside of the Premises, or if such repair or replacements relates to areas inside the Premises but affects the Building's Systems and/or Building's Structure or any other area outside the Premises, then Landlord may elect to perform such repair or replacement at Tenant's expense, rather than having Tenant perform such repair or replacement and the cost of all maintenance, repair or replacement work performed by Landlord under this Section 8 (inclusive of those fees charged by any third party undertaking such works on behalf of Landlord, provided same are consistent with prevailing market rates for such services without an additional administrative fee) shall be paid by Tenant to Landlord within 30 days after Landlord has invoiced Tenant therefor. To the extent that Landlord elects to undertake its obligations under this Lease or otherwise allow an Affiliate of Landlord to undertake Landlord's obligations under this Lease, the fees payable by Tenant to Landlord or Landlord's Affiliate shall be consistent with prevailing market rates without an additional administrative fee.

Landlord shall assign to Tenant, on a non-exclusive basis (with Landlord), or if not assignable, enforce on behalf of Tenant, the benefit of all covenants, warranties and guarantees from third parties applicable in respect of any maintenance, repair or replacement item for which Tenant is responsible under this Lease.

8.2.2 Service and Maintenance Contracts. Tenant shall enter into ongoing service and maintenance contracts, consistent with the Performance Standard, for all of those items which are Tenant's responsibility under this Section 8.2, including the Building's Systems, sprinkler systems, alarm service, janitorial, trash removal, landscaping, parking, snow removal, exterior and interior pest control, security and elevator maintenance. Upon Landlord's request therefor, Tenant shall deliver to Landlord such documentation certifying that all such items which Tenant is required to maintain hereunder are then in good repair and condition and have been maintained in accordance with this Section 8.2. In furtherance of the foregoing, Tenant, during the entire Term and at its sole cost and expense, shall enter into regularly scheduled preventative maintenance/service contracts with maintenance contractors approved by Landlord (it being acknowledged that all qualified, reputable contractors with a national presence, such as CBRE, Inc., are deemed acceptable) for servicing all of the Building's Systems and all generators and other major equipment located at the Project. Such service contracts must include all services suggested by the equipment manufacturer in its operations/maintenance manual. An executed copy of such contracts (which may be redacted to remove any confidential information unrelated to the scope of work covered thereby) shall be provided to Landlord within ten business days following the date upon which Tenant takes possession of the Premises, and copies of all renewals or extensions of such contracts (which may be redacted as provided above) shall be provided to Landlord within ten business days following the effective date thereof. If Tenant fails to provide a copy of such contracts (or renewal) within ten business days following Landlord's written request therefor, Landlord may elect to enter into such contracts at Tenant's cost, plus an administrative fee of 10% of such cost. Landlord may from time to time, at reasonable times and after reasonable prior notice to Tenant, inspect the Project to insure that Tenant is properly maintaining the same. Further, at Landlord's request, Tenant shall provide to Landlord or its agents maintenance records, building reports, invoices and purchase orders and, if requested by Landlord meet with Landlord or its agents to review and inspect the maintenance of the Project, and provide to Landlord or its agents such additional maintenance information and/or meetings as Landlord or its agents may reasonably request, and Tenant shall cooperate in good-faith with Landlord and its agents in Landlord's review of same. No later than 14 days prior to the end of the Term, Tenant shall deliver to Landlord a certificate from an engineer reasonably acceptable to Landlord certifying that all such items which Tenant is required to maintain hereunder are then in good repair and condition and have been maintained in accordance with this Lease.

8.3 Performance of Work. All work described in this Section 8 shall be performed only by reputable and qualified contractors and subcontractors and only in accordance with plans and specifications approved by Landlord in writing, to the extent such approval is required herein. If Tenant requests that Landlord supervise any work described in this Section 8 (not including day-to-day oversight of Tenant's third party property manager), Tenant

shall pay to Landlord a construction management fee equal to the construction management fee charged by Landlord's third party management company to perform such work provided same is consistent with prevailing market rates without an additional administrative fee (not to exceed 5% of the cost of such work). If Tenant has not requested that Landlord supervise any work described in this Section 8, but such work affects the Building's Systems or Building's Structure (other than to a *de minimis* extent as determined by Landlord) thus requiring Landlord's participation, Tenant shall pay to Landlord a construction management fee equal to the construction management fee charged by Landlord's third party management company to perform such work provided same is consistent with prevailing market rates without an additional administrative fee (not to exceed 5% of the cost of such work) affecting the Building's Systems or Building's Structure. Tenant shall cause all contractors and subcontractors to procure and maintain insurance coverage naming Landlord, Landlord's Mortgagee, Landlord's property management company and Landlord's asset management company as additional insureds against such risks, in such amounts as is commercially reasonable and with reputable companies with an A.M. Best rating of A-VII or better. Tenant shall provide Landlord with the identities, mailing addresses and telephone numbers of all persons performing work or supplying materials prior to beginning such construction and Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable Laws. All such work shall be performed in accordance with all Laws and in a good and workmanlike manner so as not to damage the Building (including the Premises, the Building's Structure and the Building's Systems) and shall use materials of a quality that is at least equal to the quality that is consistent with the standard for the Building as of the Commencement Date, and in such manner as to cause a minimum of interference with other construction in progress and with the transaction of business in the Project and the related complex. Landlord may designate reasonable written rules, regulations and procedures for the performance of all such work in the Building (including insurance requirements for contractors) and shall have the right to designate reasonable times when such work may be performed. All such work which may affect the Building's Structure or the Building's Systems (other than to a *de minimis* extent as determined by Landlord) must be approved by the Project's engineer of record, at Tenant's expense and, at Landlord's election, must be performed by Landlord's usual contractor for such work, which contractor shall be independent, qualified, and reputable, and their rates, fees etc. are consistent with market rates for the subject works without an additional administrative fee. All work affecting the roof of the Building must be performed by Landlord's roofing contractor (whose rates and fees shall be consistent with market rates for the subject works without an additional administrative fee) and no such work will be permitted if it would void or reduce or otherwise adversely affect the warranty on the roof. Upon completion of any work described in this Section 8, Tenant shall furnish Landlord with accurate reproducible "as-built" CADD files of the improvements as constructed.

8.4 **Liens**. Tenant shall promptly pay all charges for work, materials, supplies and services performed or supplied in respect of the Premises by or on behalf of any Tenant Party. All work performed, materials furnished, or obligations incurred by or at the request of a Tenant Party shall be deemed authorized and ordered by Tenant only, and Tenant shall not permit any liens or claims for liens to be filed against the Premises or the Project in connection therewith. If such a lien is filed, then Tenant shall, within ten business days after Landlord has delivered notice of the filing thereof to Tenant (or such earlier time period as may be necessary to prevent the forfeiture of the Premises, the Project or any interest of Landlord therein or the imposition of a civil or criminal fine with respect thereto), either (1) pay the amount of the lien into court and cause the lien to be released of record, or (2) diligently contest such lien and deliver to Landlord a bond or other security reasonably satisfactory to Landlord. If Tenant fails to timely take either such action, then Landlord may pay the lien claim (either to the claimant or into court), and any amounts so paid, including expenses and interest, shall be paid by Tenant to Landlord within ten business days after Landlord has invoiced Tenant therefor. Landlord and Tenant acknowledge and agree that their relationship is and shall be solely that of "landlord-tenant" (thereby excluding a relationship of "owner-contractor," "owner-agent" or other similar relationships) and that Tenant is not authorized to act as Landlord's common law agent or construction agent in connection with any work performed in the Premises. Accordingly, all materialmen, contractors, artisans, mechanics, laborers and any other persons now or hereafter contracting with Tenant, any contractor or subcontractor of Tenant or any other Tenant Party for the furnishing of any labor, services, materials, supplies or equipment with respect to any portion of the Premises, at any time from the date hereof until the end of the Term, are hereby charged with notice that they look exclusively to Tenant to obtain payment for same. Nothing herein shall be deemed a consent by Landlord to any liens being placed upon the Premises, the Project or Landlord's interest therein due to any work performed by or for Tenant or deemed to give any contractor or subcontractor or materialman any right or interest in any funds held by Landlord to reimburse Tenant for any portion of the cost of such work. Tenant shall defend, indemnify and hold harmless Landlord and its agents and representatives from and against all claims, demands, causes of action, suits, judgments, damages and

expenses (including actual, out-of-pocket attorneys' fees) in any way arising from or relating to the failure by any Tenant Party to pay for any work performed, materials furnished, or obligations incurred by or at the request of a Tenant Party. This indemnity provision shall survive termination or expiration of this Lease.

8.5 **Utilities; Licenses and Permits**.

8.5.1 **Utilities**. Tenant shall pay for all water, gas, electricity, heat, telephone, sewer, sprinkler charges and other utilities and services used at the Project, together with any taxes, penalties, surcharges, connection charges, maintenance charges, and the like pertaining to Tenant's use of the Project. Landlord shall have no responsibility whatsoever in connection with the foregoing. Tenant, at its expense, shall obtain all utility services for the Project, including making all applications therefor, obtaining meters and other related equipment, and paying all deposits and connection charges. Landlord shall not be liable for any interruption or failure of utility service to the Project, and such interruption or failure of utility service shall not be a constructive eviction of Tenant, constitute a breach of any implied warranty, or entitle Tenant to any abatement of Tenant's obligations hereunder.

8.6 **Electrical Use**.

8.6.1 **Additional Electrical Capacity**. The use of electricity in the Premises shall not exceed the capacity of existing feeders and risers to or wiring in the Building, as may be increased and supplemented in accordance with the provisions of this Lease. Any risers or wiring required to meet Tenant's excess electrical requirements shall, upon Tenant's written request, be installed by Landlord, at Tenant's cost (without an additional administrative fee and which shall be based on market rates for such works), if, in Landlord's reasonable judgment, the same shall not cause permanent and adverse damage to the Building or the Premises, cause or create a dangerous or hazardous condition, entail excessive or unreasonable alterations, repairs, or expenses, if Tenant is not the sole tenant of the Building, adversely affect Landlord's ability to provide reasonable service to the balance of the Building.

8.6.2 **Required Additional Supplemental HVAC**. If Tenant uses machines or equipment in the Premises which affect (other than to a *de minimis* extent) the temperature otherwise maintained by the air conditioning system or otherwise overload any utility, Landlord shall notify Tenant in writing thereof and thereafter Tenant shall have a reasonable time period under the circumstances (not to exceed a total of 45 days following Landlord's written notice to Tenant, unless such situation poses a material and imminent threat to the Building [or any part thereof] or the occupants thereof, if any, as determined by Landlord in its commercially reasonable discretion, in which case no notice from Landlord to Tenant shall be required) to remove the equipment and/or install supplemental air conditioning, failing which Landlord may install such supplemental air conditioning units or other supplemental equipment in the Premises, and the actual cost thereof, including the cost of design, installation, operation, use, and maintenance, in each case plus an administrative fee of 10% of such cost, shall be paid by Tenant to Landlord within 30 days after Landlord has delivered to Tenant an invoice therefor.

8.6.3 **Licenses and Permits**. Tenant shall, at its sole cost and expense, obtain and keep in force during the Term, and all extensions thereof, all licenses, certificates and permits necessary for it to use the Project in accordance with applicable Laws.

9. **Use**. Tenant shall use the Premises only for the Permitted Use and shall comply with all Laws relating to the use, condition, access to, and occupancy of the Premises and will not commit waste, overload the Building's Structure or the Building's Systems or subject the Premises to use that would damage the Premises. The population density within the Premises as a whole shall at no time exceed one person for each 200 rentable square feet in the Premises; however, such population density may from time to time exceed such number on a temporary basis for meetings, conferences and other events of a temporary nature. Tenant may use the Premises after the Normal Building Hours; however, (a) no more than 10% of Tenant's desks and workstations in the Premises may be in use after Normal Building Hours other than on an occasional basis, and (b) such hours of operation shall not affect (1) the Normal Building Hours, or (2) Tenant's obligation with respect to all costs and expenses as a result of Tenant operating in the

Premises beyond the Normal Building Hours, including accelerated wear and tear on the Building's Systems. The Premises shall not be used for any use which is disreputable, creates extraordinary fire hazards, or results in an increased rate of insurance on the Project or its contents, or for the storage of any Hazardous Materials (other than in compliance with all Laws and this Lease). Tenant shall not use any portion of the Premises for a "call center," any other telemarketing use, or any credit processing use other than as an ancillary component to Tenant's Permitted Use in the Premises consistent with Class A buildings in the submarket in which the Building is located. Tenant may use any existing wiring or cabling in the Premises in its current "AS-IS" condition; however, any additional wiring or cabling installed by Tenant or modifications made to the existing wiring or cabling shall be at Tenant's sole cost and expense. During the Term, Tenant shall leave any pre-existing but unused wiring and cabling undamaged and in a neat and organized fashion, labeled, and comparable to its current condition. If, because of a Tenant Party's acts or omissions or because Tenant vacates the Premises, the rate of insurance on the Building or its contents increases, then Tenant shall pay to Landlord the amount of such increase with 15 days of written demand with supporting evidence, and acceptance of such payment shall not waive any of Landlord's other rights. Tenant shall conduct its business and control each other Tenant Party so as not to create any nuisance or unreasonably interfere with Landlord in its management of the Project.

10. **Assignment and Subletting**.

10.1 **Transfers**. Except as provided in Section 10.9 and in Section 10.10, Tenant shall not, without the prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed subject to the standards described in Section 10.2 below) of Landlord, (1) assign, transfer, or encumber this Lease or any estate or interest herein, whether directly or by operation of law, (2) permit any other entity to become Tenant hereunder by merger, consolidation, or other reorganization, (3) if Tenant is a corporation or partnership permit a Change of Control to occur in respect of such corporation or partnership, (4) sublet any portion of the Premises, (5) grant any license, concession, or other right of occupancy of any portion of the Premises, (6) permit the use of the Premises by any parties other than Tenant, or (7) sell or otherwise transfer, in one or more transactions, a majority of Tenant's assets (any of the events listed in Section 10.1(1) through 10.1(7) being a "**Transfer**"). "**Change of Control**" means, in the case of any corporation or partnership, the transfer or issue by sale, assignment, subscription, transmission on death, mortgage, charge, security interest, operation of law (including amalgamation) or otherwise (including, without limitation, any change in the constitution of a partnership) of any shares, voting rights, securities or interests which would result in any change in the effective Control of such corporation or partnership, unless: (A) such change occurs as a result of trading in the securities of an entity listed on a recognized stock exchange in Canada, the United States or on any other recognized stock exchange; and (B) Landlord receives assurances reasonably satisfactory to it that such change will not detrimentally affect the financial capacity of such entity or the ability of such entity to conduct business, provided there shall be a continuity of the business of such entity notwithstanding such Change of Control.

10.2 **Consent Standards**. In determining whether or not to grant its consent to a Transfer, it shall not be unreasonable for Landlord to withhold its consent if, without limiting any other factor or circumstance which Landlord may reasonably take into account:

(a) in Landlord's opinion, arrived at reasonably and in good faith, the proposed transferee or any principal or principal shareholder of the proposed transferee: (1) does not have a history of successful business operations in the business to be conducted in the Premises; (2) does not have a satisfactory background, business history, financial condition, creditworthiness and/or capability; (3) any companies or partnerships of which the proposed transferee or such principal was a principal shareholder or partner, has a history of defaults under commercial leases; (4) meets Landlord's reasonable standards for tenants of the Project and the related complex and is otherwise compatible with the character of the occupancy of the Project and the related complex;

(b) Landlord does not receive such financial, business or other information relating to the proposed Transferee and its principals or principal shareholders as Landlord reasonably requires to enable it to make a determination concerning the matters set out in Subsection 10.2(a) including, without limitation, the information required pursuant to Section 10.3;

(c) the use of the Premises by the proposed transferee, in Landlord's opinion arrived at reasonably and in good faith, could: (1) result in occupancy of the Premises exceeding the density limit or excessive use of the elevators or other building systems; (2) be inconsistent with the image, character and standards of the Project; (3) expose the occupants of the related complex (for so long as the related complex is owned by Landlord or an Affiliate of Landlord) to risk of harm (other than to a *de minimis* extent as determined by Landlord), damage or interference (other than to a *de minimis* extent as determined by Landlord) with their use and enjoyment thereof; (4) result in a material increase of pedestrian or vehicular traffic to the Premises or any other part of the Building; or (5) to extent the proposed transferee, individually or collectively with Tenant will materially increase Operating Costs; or

(d) the proposed transferee:

(1) proposes to use any portion of the Premises for a use other than the Permitted Use (including, without limitation, uses for credit processing and telemarketing other than on an ancillary basis to the principal use provided that the principal use is not for credit processing or telemarketing) or will use the Premises in any manner that would conflict with any exclusive use agreement or other similar agreement or record as of the Lease Date;

(2) is a governmental or quasi-governmental entity, or subdivision or agency thereof, or any other entity entitled to the defense of sovereign immunity that (A) is not typically found in Class A office buildings or (B) could materially increase the pedestrian or vehicular traffic to the Project; or

(3) is currently or has in the past been involved in litigation with Landlord or any of its Affiliates.

Additionally, Landlord may withhold its consent in its sole discretion to any proposed Transfer if any Event of Default by Tenant then exists. Any Transfer made while an Event of Default exists hereunder, irrespective whether Landlord's consent is required hereunder with respect to the Transfer, shall be voidable by Landlord in Landlord's sole discretion. Any consent by Landlord to a Transfer shall not constitute a waiver of the necessity for such consent to any subsequent Transfer by either Tenant or any proposed Transferee in accordance with this Section 10. Landlord shall not be liable for any losses or claims that may be suffered or incurred by Tenant arising out of Landlord unreasonably withholding its consent to any Transfer, it being intended that Tenant's only recourse in such event shall be an application to court for a declaration that Landlord grant its consent to such Transfer. This prohibition against Transfer shall include a prohibition against any Transfer by operation of law. Notwithstanding any other provisions of this Section 10: (A) Tenant shall not grant, or permit to exist, any leasehold mortgage or any other charge of the Premises of any nature; and (B) in the case of a Transfer that is a sublease, the Transferee in respect thereof shall not enter into, consent to or permit a sub-sublease of all or any part of the Premises that is subject to such sublease without the prior written consent of Landlord, which consent may be withheld in Landlord's sole discretion. Landlord may condition its consent to a Transfer on a reasonable increase in the Security Deposit or receipt of a guarantee from a suitable party.

10.3 **Request for Consent**. If Tenant requests Landlord's consent to a Transfer, then, at least 15 business days prior to the effective date of the proposed Transfer, Tenant shall provide Landlord with a written description of all terms and conditions of the proposed Transfer, copies of the proposed documentation (which may be redacted to remove any confidential information unrelated to this Lease or any subletting of the Premises or assignment of this Lease), and the following information about the proposed transferee: name and address of the proposed transferee and any entities and persons who own, control or direct the proposed transferee; reasonably satisfactory information about its business and business history; its proposed use of the Premises; banking, financial, and other credit information; and general references sufficient to enable Landlord to determine the proposed transferee's creditworthiness and character. Concurrently with Tenant's notice of any request for consent to a Transfer, Tenant shall pay to Landlord a fee of \$500 to defray Landlord's expenses in reviewing such request, and Tenant shall also reimburse Landlord within 15 business days of written request for its reasonable attorneys' fees and other expenses incurred in connection with

considering any request for consent to a Transfer (which shall not exceed \$2,500 for consents to subleases provided Landlord's standard consent to sublease form is used without material modification or negotiation).

10.4 **Conditions to Consent**. The following provisions shall be applicable to a Transfer whether or not the consent of Landlord thereto is required or given:

(a) Any Transfer to which Landlord consents or which is otherwise permitted under this Lease shall be subject to Tenant and the transferee executing, prior to the Transfer being made, an agreement with Landlord on terms and conditions that are customary at the applicable time for such agreements and otherwise in form and content satisfactory to Landlord, Tenant and such Transferee, each acting reasonably, provided that such agreement shall provide, *inter alia*, that:

(1) in the case of an assignment the Transferee agrees to be bound by all of the terms of this Lease jointly and severally with Tenant as if it had originally executed this Lease as tenant;

(2) in the case of a sublease: (A) the transferee's right, title and interest in and to the Premises shall terminate upon the surrender, release, disclaimer or merger of this Lease, and the transferee waives its rights to retain possession of the subleased premises or obtain relief from forfeiture under the provisions of the *Commercial Tenancies Act* (Ontario) or any other statutory provisions; (B) upon notice from Landlord, the transferee shall pay all amounts payable by it each month under the sublease directly to Landlord, who shall apply such payments on account of Tenant's obligations under this Lease; and (C) the transferee shall not enter into, consent to or permit a sub-sublease of all or any part of the Premises that is subject to such sublease.

Such agreement and any required consent of Landlord to a Transfer shall, at Landlord's option, be prepared by Landlord or its solicitors and any and all reasonable legal and administrative costs with respect thereto shall be paid by Tenant.

(b) If Tenant effects a Transfer, Landlord may collect Rent from the transferee and apply the net amount collected to the Rent payable under this Lease but no acceptance by Landlord of any payments by a transferee shall be deemed to be acceptance of the transferee as a tenant or a waiver of Tenant's covenants or a release of Tenant from the further performance by Tenant of its obligations under this Lease.

(c) Tenant shall pay for the cost of any demising walls or other improvements necessitated by a proposed subletting or assignment.

(d) In the event that this Lease is disclaimed or terminated in the context of any bankruptcy proceeding pertaining to any transferee of this Lease, Ciena Canada, Inc. (the "**Original Tenant**"), within 10 days after receipt of a notice from Landlord, which notice may be given to Original Tenant at Landlord's option, shall enter into a new lease with, and prepared by, Landlord on the same terms and conditions as contained herein for the balance of the Term (being the period commencing on the date of such disclaimer or termination, as the case may be, and expiring on the date this Lease would have expired except for such disclaimer or termination). Original Tenant's obligations under this Section 10.4 shall survive the disclaimer or termination of this Lease in the context of any bankruptcy proceeding pertaining to any transferee of this Lease.

(e) Notwithstanding the effective date of any permitted Transfer as between Tenant and the transferee, all Rent for the month in which such Transfer occurs shall be paid in advance by Tenant so that Landlord will not be required to accept partial payments of Rent for such month from either Tenant or transferee.

(f) If the Transfer in respect of which consent has been given is not completed within 180 days of the date of such consent or if an Event of Default has occurred that is continuing, then such consent shall, at Landlord's option, become void.

10.5 **No Release**. Notwithstanding any other provision of this Lease, or any other rights that Original Tenant may have at law or equity, no Transfer whatsoever (whether effected with or without the consent of Landlord) shall release Original Tenant from its obligations and liabilities under, pursuant to, or in respect of, this Lease. Original Tenant covenants and agrees that it shall, notwithstanding any Transfer whatsoever in all cases remain fully obligated and liable under this Lease. Without limiting the generality of the foregoing, following a Transfer, Original Tenant shall indemnify and save Landlord harmless from and against any and all claims and losses which Landlord may incur, or to which it may become subject, by reason of the failure of the Transferee to pay, observe, perform and comply with its obligations and liabilities under, pursuant to, or in respect of, this Lease for any reason whatsoever and/or from any inability of Landlord to obtain or enforce payment, performance and observance of such obligations and liabilities from, or against, the transferee for any reason whatsoever. Without limiting the generality of the foregoing, Original Tenant covenants and agrees with Landlord that in the event that the transferee is at any time, or from time to time, in default in payment of any Rent or other amount payable under this Lease Original Tenant, Original Tenant shall pay to Landlord on demand all such amounts then in default.

10.6 **Attornment by Subtenants**. Each sublease by Tenant hereunder shall be subject and subordinate to this Lease and to the matters to which this Lease is or shall be subordinate, and each subtenant by entering into a sublease is deemed to have agreed that in the event of termination, re-entry or dispossession by Landlord under this Lease, Landlord may, at its option, take over all of the right, title and interest of Tenant, as sublandlord, under such sublease, and such subtenant shall, at Landlord's option, attorn to Landlord pursuant to the then executory provisions of such sublease, except that Landlord shall not be (1) liable for any previous act or omission of Tenant under such sublease, (2) subject to any counterclaim, offset or defense that such subtenant might have against Tenant, (3) bound by any previous modification of such sublease not approved by Landlord in writing or by any rent or additional rent or advance rent which such subtenant might have paid for more than the current month to Tenant, and all such rent shall remain due and owing, notwithstanding such advance payment, (4) bound by any security or advance rental deposit made by such subtenant which is not delivered or paid over to Landlord and with respect to which such subtenant shall look solely to Tenant for refund or reimbursement, or (5) obligated to perform any work in the subleased space or to prepare it for occupancy, and in connection with such attornment, the subtenant shall execute and deliver to Landlord any instruments Landlord may reasonably request to evidence and confirm such attornment. Each subtenant or licensee of Tenant shall be deemed, automatically upon and as a condition of its occupying or using the Premises or any part thereof, to have agreed to be bound by the terms and conditions set forth in this Section 10.6. The provisions of this Section 10.6 shall be self-operative, and no further instrument shall be required to give effect to this provision.

10.7 **Cancellation**. Landlord may, within 30 days after submission of Tenant's written request for Landlord's consent to an assignment or subletting (in each case to a party other than a Permitted Transferee) of two (2) full floors or more with a sublease term extending (or containing an option to extend) into the last 24 months of the then current Term, cancel this Lease as to the portion of the Premises proposed to be sublet or assigned as of the date the proposed Transfer is to be effective. If Landlord cancels this Lease as to any portion of the Premises, then this Lease shall cease for such portion of the Premises and Tenant shall pay to Landlord all Rent accrued through the cancellation date relating to the portion of the Premises covered by the proposed Transfer. Thereafter, Landlord may lease such portion of the Premises to the prospective transferee (or to any other person) without liability to Tenant. Notwithstanding the foregoing, if Landlord provides written notification to Tenant of its election to cancel this Lease as to any portion of the Premises as provided above, Tenant may rescind its proposed assignment or subletting of the Premises by notifying Landlord in writing within five business days following Landlord's written cancellation notice, and if Tenant timely elects to rescind its request, Landlord's the cancellation notice shall be rendered null and void.

10.8 **Additional Compensation**. While no Event of Default exists, Tenant shall pay to Landlord, immediately upon receipt thereof, fifty percent (50%) of the excess of (1) all compensation received by Tenant for a Transfer which is specifically allocated to the value of the leasehold interest and excluding goodwill and any other amounts paid or payable for any other assets conveyed by Tenant, less the actual out-of-pocket costs reasonably incurred by Tenant with unaffiliated third parties (i.e., brokerage commissions, tenant finish work and any other reasonable and

customary out-of-pocket costs, including test fits, marketing costs, free rent, and other tenant inducements) in connection with such Transfer (such costs shall be amortized on a straight-line basis over the term of the Transfer in question) over (2) the Rent allocable to the portion of the Premises covered thereby. While any Event of Default exists, Tenant shall pay to Landlord, immediately upon receipt thereof, one hundred percent (100%) of the excess of (A) all compensation received by Tenant for a Transfer over (B) the Rent allocable to the portion of the Premises covered thereby.

10.9 **Permitted Transfers**. Notwithstanding Section 10.1, Tenant may Transfer all or part of its interest in this Lease or all or part of the Premises (a “**Permitted Transfer**”) to the following types of entities (a “**Permitted Transferee**”) without the written consent of Landlord, provided that Tenant shall not enter into a series of transactions as a means of subverting the terms of this Section 10.9:

10.9.1 an Affiliate of Tenant or Guarantor, but only so long as such transferee remains an Affiliate of Tenant or Guarantor;

10.9.2 any corporation, limited partnership, limited liability partnership, limited liability company or other business entity in which or with which Tenant, or its corporate successors or assigns, is merged or consolidated, in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as (1) Tenant’s obligations hereunder are assumed by the entity surviving such merger or created by such consolidation; (2) the Tangible Net Worth of Guarantor immediately following the applicable transaction (based on pro forma financial information available immediately before the applicable transaction and calculated as if the subject transactions were completed) is equal to or greater than the average Tangible Net Worth of Guarantor for the preceding 12 fiscal quarters immediately before the applicable transaction; (3) the Corporate Debt Rating of Guarantor immediately following the applicable transaction (which may be based on the anticipated Corporate Debt Rating issued by S&P or Moody’s before the applicable transaction as if the subject transactions were completed) is equal to or greater than the Corporate Debt Rating of Guarantor immediately before the applicable transaction; and (4) the proposed transferee is an Affiliate of Guarantor;

10.9.3 any corporation, limited partnership, limited liability partnership, limited liability company or other business entity acquiring all or substantially all of Tenant’s assets (whether directly via asset purchase or indirectly via a direct or indirect Change of Control of Tenant), so long as (1) Tenant’s obligations hereunder are assumed by the entity acquiring such assets; (2) the Tangible Net Worth of Guarantor immediately following the applicable transaction (based on pro forma financial information available immediately before the applicable transaction and calculated as if the subject transactions were completed) is equal to or greater than the average Tangible Net Worth of Guarantor for the preceding 12 fiscal quarters immediately before the applicable transaction; (3) the Corporate Debt Rating of Guarantor immediately following the applicable transaction (which may be based on the anticipated Corporate Debt Rating issued by S&P or Moody’s before the applicable transaction as if the subject transactions were completed) is equal to or greater than the Corporate Debt Rating of Guarantor immediately before the applicable transaction; and (4) the proposed transferee is an Affiliate of Guarantor; or

10.9.4 (1) an initial or subsequent public offering or distribution of equity or debt securities by Tenant, Guarantor or any Affiliate of Tenant or Guarantor, and/or (2) the sale of equity or convertible debt securities of Tenant, Guarantor or any Affiliate of Tenant or Guarantor in any transaction, so long as (i) the Tangible Net Worth of Guarantor immediately following the applicable transaction (based on pro forma financial information available immediately before the applicable transaction and calculated as if the subject transactions were completed) is equal to or greater than the average Tangible Net Worth of Guarantor for the preceding 12 fiscal quarters immediately before the applicable transaction and (ii) the Corporate Debt Rating of Guarantor immediately following the applicable transaction (which may be based on the anticipated Corporate Debt Rating issued by S&P or Moody’s before the applicable transaction as if the subject transactions were completed) is equal to or greater than the Corporate Debt Rating of Guarantor immediately before the applicable transaction.

Tenant shall promptly notify Landlord of any such Permitted Transfer (subject to the confidentiality qualifications noted above). Tenant shall remain liable for the performance of all of the obligations of Tenant hereunder, or if Tenant no longer exists because of a merger, consolidation, or acquisition, the surviving or acquiring entity shall expressly assume in writing the obligations of Tenant hereunder. Additionally, the Permitted Transferee shall comply with all of the terms and conditions of this Lease, including the Permitted Use, and the use of the Premises by the Permitted Transferee may not violate any other agreements affecting the Premises or the Project or the related complex, Landlord or other tenants of the related complex of record as of the Lease Date. No later than ten days after the effective date of any Permitted Transfer, Tenant agrees to furnish Landlord with (A) copies of the instrument effecting any of the foregoing Transfers, (B) documentation establishing Tenant's satisfaction of the requirements set forth above applicable to any such Transfer, and (C) evidence of insurance as required under this Lease with respect to the Permitted Transferee. The occurrence of a Permitted Transfer shall not waive Landlord's rights as to any subsequent Transfers, and any subsequent Transfer by a Permitted Transferee shall be subject to the terms of this Section 10. The right to Transfer to an Affiliate pursuant to Subsection 10.9.1 shall be subject to the condition that such Permitted Transferee remains an Affiliate of Tenant and Guarantor and that on or before such Transfer being effected both Tenant and such Permitted Transferee must enter into an agreement with Landlord, in a form satisfactory to Landlord, Tenant and such Permitted Transferee, each acting reasonably, that if such Permitted Transferee ceases to be an Affiliate of Tenant and Guarantor, it shall so notify Landlord in writing within ten days after such event and, upon the written request of Landlord, transfer, assign, set over and/or re-assign this Lease and its interest in the Premises, as applicable, to Tenant or, subject to complying with this condition, another Affiliate of Tenant and Guarantor. As a condition to a Permitted Transfer, at Landlord's request, Guarantor shall ratify and confirm in writing to Landlord the Guarantee executed by Guarantor for the benefit of Landlord and acknowledge in a written instrument reasonably acceptable to Landlord that the obligations of the proposed transferee shall be included as part of the obligations guaranteed by Guarantor under such Guarantee. As used herein, "**Tangible Net Worth**" means the excess of total assets over total liabilities, in each case as determined in accordance with generally accepted accounting principles consistently applied ("**GAAP**"), excluding, however, from the determination of total assets all assets which would be classified as intangible assets under GAAP including goodwill, licenses, patents, trademarks, trade names, copyrights, and franchises, as evidenced by financial statements audited by a certified public accounting firm reasonably acceptable to Landlord. "**Corporate Debt Rating**" shall mean either a general corporate debt rating or an unsecured corporate debt rating by either Standard & Poor's Corporation ("**S&P**") or Moody's Investor Service ("**Moody's**").

10.10 **Permitted Occupants**.

10.10.1 Notwithstanding anything in this Section 10 to the contrary, Tenant may permit its subsidiaries, Affiliates, clients, contractors, customers, auditors, strategic partners or other entities under common ownership (total or partial) with Tenant or with whom Tenant has or is then establishing a bona fide business relationship (each a "**Permitted Occupant**") to occupy and use up to 20% of the Premises, in the aggregate, without the written consent of Landlord, subject to the following conditions: (a) the Permitted Occupant is of character, is engaged in a business, uses the Premises in keeping with Tenant and the Permitted Use, (b) the use of the Premises by the Permitted Occupant may not violate any other agreements affecting the Premises, the Building, the Project, the related complex, Landlord or other tenants of the related complex, (c) the use and occupancy by the Permitted Occupant is otherwise expressly subject to, and the Permitted Occupant must comply with, all of the terms, covenants, conditions and obligations on Tenant's part to be observed and performed under this Lease (other than Tenant's obligation to pay Basic Rent or Additional Rent under this Lease), including the requirement to obtain insurance in the requisite amounts and to indemnify, defend and hold Landlord harmless for any Loss (defined below) or other liabilities resulting from the use and operations contemplated by this Section 10.10, (d) any violation of any provision of this Lease by the Permitted Occupant shall be deemed to be a default by Tenant under such provision, (e) the space occupied by the Permitted Occupant shall not be separately demised from the Premises, (f) the Permitted Occupant shall have no recourse against Landlord whatsoever on account of any failure by Landlord to perform any of its obligations under this Lease or on account of any other matter, (g) all notices required of Landlord under this Lease shall be forwarded only to Tenant in accordance with the terms of this Lease and in no event shall Landlord be required to send any notices to any Permitted Occupant, (h) in no event shall any use or occupancy of any

portion of the Premises by any Permitted Occupant release or relieve Tenant from any of its obligations under this Lease, (i) each such Permitted Occupant shall be deemed an invitee of Tenant, and Tenant shall be fully and primarily liable for all acts and omissions of such Permitted Occupant as fully and completely as if such Permitted Occupant was an employee of Tenant; (j) in no event shall the occupancy of any portion of the Premises by any Permitted Occupant be deemed to create a landlord/tenant relationship between Landlord and such Permitted Occupant or be deemed to vest in Permitted Occupant any right or interest in the Premises or this Lease, and, in all instances, Tenant shall be considered the sole tenant under the Lease notwithstanding the occupancy of any portion of the Premises by any Permitted Occupant; and (k) Tenant shall receive no rent, payment or other consideration in connection with such occupancy and use other than nominal rent payments, which in no event may be greater per rentable square foot occupied and used by such Permitted Occupant than the Basic Rent and Additional Rent amounts (per rentable square foot in the Premises) payable by Tenant hereunder.

10.10.2 Tenant shall provide to Landlord promptly after request a written list of the names and contact information of all Permitted Occupants then being allowed access to the Premises by Tenant.

10.10.3 Any equipment or other property of a Permitted Occupant in the Project shall be subject to Section 16 (Personal Property Taxes), Section 20 (Landlord's Lien) and Section 21 (Surrender of Premises) of this Lease. However, nothing in this Section 10.10 shall diminish Landlord's rights elsewhere in this Lease or imply that Landlord has any duties to any Permitted Occupant. Tenant acknowledges that Landlord shall have no responsibility or liability for the allocation or use of the Premises between Tenant and any Permitted Occupant. No disputes among Tenant and any Permitted Occupant shall in any way affect the obligations of Tenant hereunder.

10.10.4 In addition to all other indemnity obligations of Tenant under this Lease, Tenant shall defend, indemnify and hold harmless Landlord, Landlord's Mortgagee and their respective representatives and agents from and against all Losses arising from all claims made by, attributable to, or otherwise relating to, any Permitted Occupant in accordance with Tenant's indemnity obligations under Section 11.4 hereof.

11. **Insurance; Waivers; Subrogation; Indemnity**

11.1 **Tenant's Insurance**. Effective as of the earlier of (1) the date Tenant enters or occupies the Premises, or (2) the Commencement Date, and continuing throughout the Term, Tenant shall maintain the following insurance policies: (A) commercial general liability insurance (including property damage, bodily injury and personal injury coverage) in amounts of \$1,000,000 per occurrence in primary coverage, with an additional \$10,000,000 in umbrella coverage or, following the expiration of the initial Term, such other amounts as Landlord may from time to time reasonably require so long as such additional amounts are typical for comparably sized commercial office tenants in comparable buildings in the submarket in which the Project is located (and, if the use and occupancy of the Premises include any activity or matter that is or may be excluded from coverage under a commercial general liability policy [e.g., the consumption of alcoholic beverages], Tenant shall obtain such endorsements to the commercial general liability policy or otherwise obtain insurance to insure all liability arising from such activity or matter [including liquor host liability, if applicable] in such amounts as Landlord may reasonably require), insuring Tenant (and naming as additional insureds Landlord, Landlord's property management company, Landlord's asset management company and, if requested in writing by Landlord, Landlord's Mortgagee), against all liability for injury to or death of a person or persons or damage to property arising from the use and occupancy of the Premises and (without implying any consent by Landlord to the installation thereof) the installation, operation, maintenance, repair or removal of Tenant's Off-Premises Equipment, (B) cause of loss-special risk form (formerly "all-risk") insurance (including, but not limited to, sprinkler leakage, ordinance and law, sewer back-up and flood) covering the replacement value of all alterations and improvements and betterments in the Premises, naming Landlord and Landlord's Mortgagee as additional loss payees as their interests may appear, (C) cause of loss-special risk form (formerly "all-risk") insurance covering the full value of all furniture, trade fixtures, equipment and personal property in the Premises or otherwise placed in the Project by or on behalf of a Tenant Party (including Tenant's Off-Premises Equipment), (D) contractual liability insurance (but only if such contractual liability insurance is not already included in Tenant's commercial general liability insurance policy), (E) commercial auto liability insurance (if applicable) covering automobiles owned, hired or used by Tenant in carrying

on its business with limits not less than \$1,000,000 combined single limit for each accident, insuring Tenant (and naming as additional insureds Landlord, Landlord's property management company, Landlord's asset management company and, if requested in writing by Landlord, Landlord's Mortgagee), (F) worker's compensation insurance and employer's liability insurance with statutory limits, and (G) extra expense insurance attributable to the Premises in an amount of \$2,500,000. Tenant's insurance shall be primary and non-contributory when any policy issued to Landlord provides duplicate or similar coverage, and in such circumstance Landlord's policy will be excess over Tenant's policy. Tenant shall furnish to Landlord certificates of such insurance at least five business days prior to the earlier of the Commencement Date or the date Tenant enters or occupies the Premises (in any event, within ten days of the effective date of coverage), and on or prior to each renewal of said insurance without any lapse in coverage, and Tenant shall notify Landlord within four business days of Tenant's receipt of notice of cancellation if any such insurance policy is to be cancelled before the expiration date hereof. All such insurance policies shall be in form reasonably satisfactory to Landlord and issued by companies with an A.M. Best rating of A-:VII or better. However, no review or approval of any insurance certificate or policy by Landlord shall derogate from or diminish Landlord's rights or Tenant's obligations hereunder. If Tenant fails to comply with the foregoing insurance requirements or to deliver to Landlord the certificates or evidence of coverage required herein within five business days from written notice from Landlord (which notice shall not be given until such time as the required insurance herein must be maintained), Landlord, in addition to any other remedy available pursuant to this Lease or otherwise, may, but shall not be obligated to, obtain such insurance and Tenant shall pay to Landlord on demand the premium costs thereof, plus an administrative fee of 5% of such cost. Any insurance required to be maintained by Tenant may be taken out under a corporate blanket insurance policy or policies covering other premises, property or insureds in addition to the Premises and Tenant, provided the commercial general liability and umbrella coverages are on a per location aggregate basis (or contain a per location aggregate endorsement) and such blanket policy or policies otherwise comply with this Section 11.1.

11.2 **Landlord's Insurance**. Throughout the Term of this Lease, Landlord shall maintain, as a minimum, the following insurance policies: (1) cause of loss-special risk form (formerly "all-risk") insurance (including, but not limited to, sprinkler leakage, ordinance and law, sewer back-up and flood) for the Building's replacement value (excluding property required to be insured by Tenant), less a commercially-reasonable deductible if Landlord so chooses, and (2) commercial general liability insurance in an amount of not less than \$5,000,000 and such other insurance maintained by prudent corporate or institutional landlords for buildings and developments of equivalent quality, size, utility and location within the former City of Kanata submarket to the Building and the Project. Landlord may, but is not obligated to, maintain such other insurance and additional coverages as it may deem necessary. The cost of all insurance carried by Landlord with respect to the Project shall be included in Operating Costs. The foregoing insurance policies and any other insurance carried by Landlord shall be for the sole benefit of Landlord and under Landlord's sole control, and Tenant shall have no right or claim to any proceeds thereof or any other rights thereunder. Any insurance required to be maintained by Landlord may be taken out under a blanket insurance policy or policies covering other buildings, property or insureds in addition to the Building and Landlord. In such event, the costs of any such blanket insurance policy or policies shall be reasonably allocated to the Project and the other properties covered by such policy or policies as reasonably determined by Landlord and included as part of Operating Costs.

11.3 **No Subrogation; Waiver of Property Claims**. Landlord and Tenant each waives and releases any claim it might have against the other for any damage to or theft, destruction, loss, or loss of use of any property, to the extent the same is insured against (or permitted to be self-insured against) under any insurance policy of the types described in this Section 11 that covers the Project, the Premises, Landlord's or Tenant's fixtures, personal property, leasehold improvements, or business, or is required to be insured against under the terms hereof, **regardless of whether the negligence of the other party caused such Loss (defined below) and such waiver shall also apply to any deductible payable under Tenant's property insurance policies and self-insurance and self-retention amounts maintained by Tenant**. Additionally, Landlord and Tenant each waives any claim it may have against the other for any Loss to the extent such Loss is caused by a terrorist act. Each party shall promptly notify their respective insurance carriers of this waiver of subrogation to the extent required by each respective party's insurance policies and cause its insurance carrier to endorse all applicable policies waiving the carrier's rights of recovery under subrogation or otherwise against the other party.

11.4 **Indemnity**. Subject to Section 11.3, Tenant shall defend, indemnify, and hold harmless Landlord, Landlord Parties and its or their representatives, employees and agents from and against all claims, demands,

liabilities, causes of action, suits, judgments, damages, and expenses (including reasonable attorneys' fees) arising from any injury to or death of any person or the damage to or theft, destruction, loss, or loss of use of, any property or inconvenience (a "**Loss**") (1) occurring in or on the Project (including within the Premises) other than to the extent caused by the negligence or willful misconduct of any Landlord Party, or (2) arising out of the installation, operation, maintenance, repair or removal of any property of any Tenant Party located in or about the Project, including Tenant's Off-Premises Equipment other than to the extent caused by the negligence or willful misconduct of any Landlord Party. Subject to Section 11.3, Landlord shall defend, indemnify, and hold harmless Tenant, Tenant Parties and its or their agents and employees from and against all claims, demands, liabilities, causes of action, suits, judgments, damages, and expenses (including reasonable attorneys' fees) for any Loss arising from any occurrence in or on the Project (including within the Premises) to the extent caused by the negligence or willful misconduct of Landlord or any Landlord Party. The indemnities set forth in this Lease shall survive termination or expiration of this Lease and shall not terminate or be waived, diminished or affected in any manner by any abatement or apportionment of Rent under any provision of this Lease. If any proceeding is filed for which indemnity is required hereunder, the indemnifying party agrees, upon request therefor, to defend the indemnified party in such proceeding at its sole cost utilizing counsel satisfactory to the indemnified party and shall not settle or compromise any such proceeding without the prior written consent of the indemnified party.

12. **Subordination; Attornment; Notice to Landlord's Mortgagee.**

12.1 **Subordination.** This Lease shall be subordinate to any deed of trust, mortgage, or other security instrument (each, a "**Mortgage**"), or any ground lease, master lease, or primary lease (each, a "**Primary Lease**"), that now or, subject to Section 12.5 below, hereafter covers all or any part of the Premises (the mortgagee under any such Mortgage, beneficiary under any such deed of trust, or the lessor under any such Primary Lease is referred to herein as a "**Landlord's Mortgagee**"). Any Landlord's Mortgagee may elect, at any time, unilaterally, to make this Lease superior to its Mortgage, Primary Lease, or other interest in the Premises by so notifying Tenant in writing. Subject to Section 12.5, the provisions of this Section shall be self-operative and no further instrument of subordination shall be required; however, in confirmation of such subordination, Tenant shall execute and return to Landlord (or such other party designated by Landlord) within ten days after written request therefor such documentation, in recordable form if required, as a Landlord's Mortgagee may reasonably request to evidence the subordination of this Lease to such Landlord's Mortgagee's Mortgage or Primary Lease (including a subordination, non-disturbance and attornment agreement) or, if the Landlord's Mortgagee so elects, the subordination of such Landlord's Mortgagee's Mortgage or Primary Lease to this Lease.

12.2 **Attornment.** Tenant shall attorn to any party succeeding to Landlord's interest in the Premises, whether by purchase, foreclosure, deed in lieu of foreclosure, power of sale, termination of lease, or otherwise, upon such party's request, and shall execute such agreements confirming such attornment as such party may reasonably request.

12.3 **Notice to Landlord's Mortgagee.** Tenant shall not seek to enforce any remedy it may have for any default on the part of Landlord without first giving written notice by a nationally recognized overnight courier service, specifying the default in reasonable detail, to any Landlord's Mortgagee whose address has been given to Tenant contemporaneously with the delivery of such notice to Landlord.

12.4 **Landlord's Mortgagee's Protection Provisions.** If Landlord's Mortgagee shall succeed to the interest of Landlord under this Lease, Landlord's Mortgagee shall not be: (1) liable for any act or omission of any prior lessor (including Landlord); (2) bound by any rent or additional rent or advance rent which Tenant might have paid for more than the current month to any prior lessor (including Landlord), and all such rent shall remain due and owing, notwithstanding such advance payment; (3) bound by any security or advance rental deposit made by Tenant which is not delivered or paid over to Landlord's Mortgagee and with respect to which Tenant shall look solely to Landlord for refund or reimbursement; (4) bound by any termination (except Tenant's cancellation right expressly provided in Section 26.6), amendment or modification of this Lease made without Landlord's Mortgagee's consent and written approval, except for those terminations, amendments and modifications permitted to be made by Landlord without Landlord's Mortgagee's consent pursuant to the terms of the loan documents between Landlord and Landlord's Mortgagee; (5) subject to the defenses which Tenant might have against any prior lessor (including Landlord); and (6)

subject to the offsets which Tenant might have against any prior lessor (including Landlord) except for those offset rights which (A) are expressly provided in this Lease, (B) relate to periods of time following the acquisition of the Building by Landlord's Mortgagee, and (C) Tenant has provided written notice to Landlord's Mortgagee and provided Landlord's Mortgagee a reasonable opportunity to cure the event giving rise to such offset event. Landlord's Mortgagee shall have no liability or responsibility under or pursuant to the terms of this Lease or otherwise after it ceases to own fee simple title to the Project. Nothing in this Lease shall be construed to require Landlord's Mortgagee to see to the application of the proceeds of any loan, and Tenant's agreements set forth herein shall not be impaired on account of any modification of the documents evidencing and securing any loan. If any conflict exists or arise between the terms of this Section 12.4 and the terms of the mortgagee protection provisions contained in any executed subordination, non-disturbance and attornment agreement, the terms of the mortgagee protection provisions in the executed subordination, non-disturbance and attornment agreement shall prevail. As used in this Section 12.4, Landlord's Mortgagee shall include any party succeeding to Landlord's interest in the Premises, whether by purchase, foreclosure, deed in lieu of foreclosure, power of sale, termination of lease, or otherwise.

12.5 **Subordination, Non-Disturbance and Attornment Agreement**. Landlord shall obtain a subordination, non-disturbance and attornment agreement from the current Landlord's Mortgagee, if any, and any future Landlord's Mortgagee, in such Landlord's Mortgagee's standard form therefor with such changes thereto as may be agreed upon by Tenant and such Landlord's Mortgagee; however, any commercially reasonable fees charged by such Landlord's Mortgagee associated with obtaining such subordination, non-disturbance and attornment agreement (except for the administrative fee of obtaining such subordination, non-disturbance and attornment agreement and the initial \$2,500 in Landlord's Mortgagee's legal fees, payable to such Landlord's Mortgagee, which shall be paid by Landlord) shall be paid by Tenant within 15 days after Landlord's written request therefor and, if previously received by Landlord, accompanied by a reasonably detailed itemization of such fees and costs. Additionally and at no cost or expense to Tenant, Landlord shall obtain and deliver to Tenant on the Lease Date a lease recognition and non-disturbance agreement from Landlord's Affiliate, Innovation Blvd. I, LLC, a Delaware limited liability company, in the form attached hereto as **Exhibit N**, and upon written request by Tenant, from any head landlord under any Primary Lease that hereinafter may be entered into.

13. **Rules and Regulations**. Tenant shall comply with the rules and regulations of the Project which are attached hereto as **Exhibit D**, provided that if there is any conflict or inconsistency between this Lease and the rules and regulations, this Lease shall govern. Landlord may, from time to time, change such rules and regulations for the safety, care, or cleanliness of the Project and related facilities, provided that such changes are provided to Tenant in writing, are generally applicable to all tenants of the Project whose leases require such compliance, will not unreasonably interfere with Tenant's use of the Premises and are enforced by Landlord in a non-discriminatory manner among all tenants whose leases require such compliance. Tenant shall be responsible for the compliance or noncompliance with such rules and regulations by each Tenant Party.

14. **Condemnation**.

14.1 **Total Taking**. If the entire Building or Premises are taken by any lawful power or authority by the right of expropriation (a "**Taking**"), this Lease shall terminate as of the date of the Taking.

14.2 **Partial Taking - Tenant's Rights**. If any material portion (greater than 25% of the rentable premises in the Building or 50% of the land area of the Project) of the Building or Project becomes subject to a Taking and such Taking will prevent Tenant from conducting on a permanent basis its business in the Premises in a manner reasonably comparable to that conducted immediately before such Taking, then Tenant may terminate this Lease as of the date of such Taking by giving written notice to Landlord within 30 days after the Taking, and Basic Rent and Additional Rent shall be apportioned as of the date of such Taking. If Tenant does not terminate this Lease, then Basic Rent and Additional Rent shall be abated on a reasonable basis as to that portion of the Premises or the Project rendered untenable by the Taking.

14.3 **Partial Taking - Landlord's Rights**. If (a) any material portion (greater than 25% of the rentable premises in the Building or 50% of the land area of the Project), but less than all, of the Building or Project becomes subject to a Taking, or (b) if Landlord is required to pay \$1,500,000 or more of the proceeds arising from a

Taking to a Landlord's Mortgagee (however, Tenant may nullify Landlord's termination notice given under this clause (b) if Tenant delivers to Landlord, within five business days after Landlord's cancellation notice, funds equal to the amount of proceeds that Landlord is required to pay to a Landlord's Mortgagee in excess of \$1,500,000), then Landlord may terminate this Lease by delivering written notice thereof to Tenant within 30 days after such Taking, and Basic Rent and Additional Rent shall be apportioned as of the date of such Taking. If Landlord does not so terminate this Lease, then this Lease will continue, but if any portion of the Premises has been taken, Basic Rent and Additional Rent shall abate as provided in the last sentence of Section 14.2.

14.4 **Award**. If any Taking occurs, then Landlord shall receive the entire award or other compensation for the Project and other improvements taken; however, Tenant may separately pursue a claim (to the extent it will not reduce Landlord's award) against the condemnor for the value of Tenant's personal property which Tenant is entitled to remove under this Lease, moving costs and loss of business.

14.5 **Restoration**. In the event of any Taking of less than the whole of the Premises which does not result in a termination of this Lease, (1) Landlord, at its expense but only to the extent of the award actually received by Landlord pursuant to such Taking (after deducting any reasonable expenses incurred in connection with such Taking), shall proceed with reasonable diligence to repair, alter and restore the remaining parts of the affected Building and the Premises therein to the extent practicable, and (2) if requested by either party, Landlord and Tenant shall promptly execute an amendment to this Lease confirming the deletion from the Premises of the space subject to the Taking.

15. **Fire or Other Casualty**.

15.1 **Repair Estimate**. If the Premises or the Project are damaged by fire or other casualty (a "**Casualty**"), Tenant shall immediately notify Landlord thereof. Thereafter, Landlord shall promptly take all commercially reasonable steps to secure the safety and integrity of the Premises/Project, as the case may be, and remove all debris etc. and thereafter, as soon as reasonably possible (and in no event later than 60 days after the date on which Tenant notifies Landlord of such Casualty), deliver to Tenant a good faith estimate (the "**Damage Notice**") of the time needed to repair the damage caused by such Casualty (which estimate shall be based on the opinion of an independent, reputable and qualified consultant, such as an architect or engineer) and Landlord shall use commercially reasonable efforts to commence repair of the Premises or the Project, as applicable, as soon as reasonably possible and in any event no later than 30 days after delivery of the Damage Notice.

15.2 **Tenant's Rights**. If the Premises are damaged by Casualty such that Tenant is prevented from conducting its business in the Premises in a manner reasonably comparable to that conducted immediately before such Casualty and Landlord estimates (which estimate shall be based on the opinion of an independent, reputable and qualified consultant, such as an architect or engineer) that the damage caused thereby for which Landlord is responsible to repair under this Lease pursuant to Section 15.4 below cannot be repaired within (1) one year after the commencement of repairs, (2) 90 days after the date of the Casualty if the Casualty occurs between 365 days and 180 days before the expiration of the Term, or (3) 60 days after the date of the Casualty if the Casualty occurs during the last six months of the Term (as applicable, the "**Repair Period**"), then Tenant may terminate this Lease by delivering written notice to Landlord of its election to terminate within 30 days after the Damage Notice has been delivered to Tenant.

15.3 **Landlord's Rights**. If a Casualty occurs and (1) Landlord estimates (which estimate shall be based on the opinion of an independent, reputable and qualified consultant, such as an architect or engineer) that the damage cannot be repaired within the Repair Period, (2) the damage exceeds 50% of the replacement cost thereof (excluding foundations and footings), as estimated by Landlord as aforesaid, and such damage occurs during the last two years of the Term (provided that if Landlord elects to exercise its rights herein and Tenant has a remaining right to extend the Term, Tenant shall be entitled within 15 days of Landlord's election herein to elect to exercise such extension right, in which case Landlord's rights under this Section 15.3(2) shall not apply), (3) regardless of the extent of damage, the damage is not fully covered (e.g., the damage falls under a policy exclusion) by Landlord's insurance policies (or which would have been covered by insurance if Landlord had carried the insurance required under Section 11.2 of this Lease and diligently pursued recovery under same), or (4) Landlord is required to pay \$1,500,000 or more of the insurance proceeds arising out of the Casualty to a Landlord's Mortgagee (however, Tenant may nullify Landlord's termination notice given under this clause (4) if Tenant delivers to Landlord, within five business days after Landlord's

cancellation notice, funds equal to the amount of proceeds that Landlord is required to pay to a Landlord's Mortgagee in excess of \$1,500,000), then Landlord may terminate this Lease by giving written notice of its election to terminate within 30 days after the Damage Notice has been delivered to Tenant.

15.4 **Repair Obligation**. If neither party elects to terminate this Lease following a Casualty, within the time periods specified for so doing, then Landlord shall, within a reasonable time after such Casualty, begin to repair the Premises and shall proceed with reasonable diligence to restore the Premises to substantially the same condition as they existed immediately before such Casualty; however, Landlord shall not be required to repair or replace any improvements, alterations or betterments within the Premises (which shall be promptly and with due diligence repaired and restored by Tenant at Tenant's sole cost and expense) or any furniture, equipment, trade fixtures or personal property of Tenant or others in the Premises or the Project. If this Lease is terminated under the provisions of this Section 15, Landlord shall be entitled to the full proceeds of the insurance policies providing coverage for all alterations, improvements and betterments in the Premises; provided, that in such event, after Landlord has received proceeds sufficient to restore the Project and all improvements funded by Landlord with respect to the Premises (including the Construction Allowance), Tenant shall be entitled to proceeds up to the unamortized portion of the out-of-pocket amounts initially expended by Tenant to third parties (over and above the amount permitted to be retained by Landlord as described above) to perform the Work in the Premises, and any subsequent work in the Premises paid for exclusively by Tenant, as calculated using a straight-line amortization over the initial Term (or, for any improvements installed during any renewal Term amortized over such renewal Term), and, if Tenant has failed to maintain insurance on such items as required by this Lease, Tenant shall pay Landlord an amount equal to the proceeds Landlord would have received had Tenant maintained insurance on such items as required by this Lease.

15.5 **Abatement of Rent**. If the Premises are damaged by Casualty, Basic Rent and Additional Rent for the portion of the Premises rendered untenable by the damage shall be abated on a reasonable basis from the date of damage until the earlier of (a) completion of Landlord's repairs, (b) the date upon which completion of Landlord's repairs would have occurred but for delays caused by Tenant Parties, or (c) the date of termination of this Lease by Landlord or Tenant as provided above, as the case may be, unless a Tenant Party caused such damage, in which case, Basic Rent and Additional Rent shall be abated only to the extent Landlord is compensated for such Rent by loss of rents insurance proceeds (and, if Landlord has failed to maintain insurance on such items as required by this Lease, an amount equal to the proceeds Landlord would have received had Landlord maintained such insurance, if any. If it shall be necessary for Tenant to reconstruct alterations in the Premises, then the abatement provided above shall continue until the earlier of (1) the date on which Tenant occupies any portion of the Premises and begins conducting business therein or (2) 90 days after the date of substantial completion of the repair or reconstruction by Landlord.

16. **Personal Property Taxes**. Tenant shall be liable for, and shall pay prior to delinquency, all taxes levied or assessed against personal property, furniture, fixtures, betterments, improvements, and alterations placed by any Tenant Party in the Premises or in or on the Building or Project. If any taxes for which Tenant is liable are levied or assessed against Landlord or Landlord's property and Landlord elects to pay the same, or if the assessed value of Landlord's property is increased by inclusion of such personal property, furniture, fixtures, betterments, improvements, and alterations and Landlord elects to pay the taxes based on such increase, then Tenant shall pay to Landlord, within 30 days following written request therefor, the part of such taxes for which Tenant is primarily liable hereunder; however, Landlord shall not pay such amount if Tenant notifies Landlord that it will contest the validity or amount of such taxes before Landlord makes such payment, and thereafter diligently proceeds with such contest in accordance with Law and if the non-payment thereof does not pose a threat of loss or seizure of the Project or interest of Landlord therein or impose any fee or penalty against Landlord.

17. **Events of Default**. Each of the following occurrences shall be an "**Event of Default**":

17.1 **Payment Default**. Tenant's failure to pay Rent within five business days after Landlord has delivered written notice to Tenant that the same is due; however, an Event of Default shall occur hereunder without any obligation of Landlord to give any notice if Tenant fails to pay Rent when due and, during the 12 month interval preceding such failure, Landlord has given Tenant written notice of failure to pay Rent on two or more occasions;

17.2 **Vacating**. Tenant vacates the Premises or a substantial portion thereof without providing written notice to Landlord at least ten business days prior to the date on which Tenant vacates the Premises or any substantial portion thereof;

17.3 **Estoppel; Subordination; Financial Reports**. Tenant fails to provide any estoppel certificate, documentation regarding the subordination of this Lease or financial reports after Landlord's written request therefor pursuant to Section 25.5, Section 12.1, and Section 25.18 respectively, and such failure shall continue for five business days after Landlord's second written notice thereof to Tenant;

17.4 **Insurance**. Tenant fails to maintain any insurance which it is obligated to maintain under this Lease or any policy of insurance covering any part of the Premises is cancelled by the insurer by reason of any particular use or occupancy of the Premises by Tenant or anyone permitted by Tenant to be upon the Premises and such insurance is not replaced within two business days following such failure or cancellation;

17.5 **Liens**. Tenant fails to pay and release of record, or diligently contest and bond around, any lien filed against the Premises or the Project for any work performed, materials furnished, or obligation incurred by or at the request of a Tenant Party, within the time and in the manner required by Section 8.4;

17.6 **Transfer**. Tenant makes a Transfer or grants a leasehold mortgage or any other charge of the Premises other than in accordance with the provisions of this Lease;

17.7 **Other Defaults**. Tenant's failure to perform, comply with, or observe any agreement or obligation of Tenant under this Lease other than provided in this Section 17 and the continuance of such failure for a period of more than 30 days after Landlord has delivered to Tenant written notice thereof; however, if such failure cannot be cured within such 30-day period (thus excluding, for example, Tenant's obligation to provide Landlord evidence of Tenant's insurance coverage) and Tenant commences to cure such failure within such 30-day period and thereafter diligently pursues such cure to completion, then such failure shall not be an Event of Default unless it is not fully cured within an additional 30 days after the expiration of the initial 30-day period; and

17.8 **Insolvency**. Any of the following occur: (a) Tenant (the term "**Tenant**" shall include, for the purpose of this Section 17.8, any guarantor of Tenant's obligations hereunder) takes any steps or commences any proceedings for the dissolution, winding-up or other termination of its existence or the liquidation of its assets, other than in connection with a Transfer made in compliance with this Lease; (b) Tenant becomes bankrupt or insolvent, gives notice of its intention to make or makes any voluntary proposal, assignment or arrangement for the benefit of its creditors under any statute for bankrupt or insolvent debtors or files any application or commences any proceedings seeking any stay, reorganization, arrangement, composition or readjustment under any statute for bankrupt or insolvent debtors, or consents to or acquiesces in any such application or proceedings made by any other person or entity; (c) an application is filed or any steps are taken or proceedings commenced by any person or entity against Tenant to declare it bankrupt or insolvent, or for the dissolution, winding-up or other termination of Tenant's existence or the liquidation of its assets (other than in connection with a Transfer made in compliance with this Lease), or seeking the appointment of a trustee, receiver, receiver and manager, monitor, interim receiver, custodian, sequestrator, liquidator or other person or entity with similar powers in respect of Tenant or seeking any stay, reorganization, arrangement, composition or readjustment under any statute for bankrupt or insolvent debtors, to which Tenant, as the case may be, has not consented or acquiesced, unless such application or proceedings are stayed and being actively and diligently contested in good faith; (d) a trustee in bankruptcy, receiver, receiver and manager, interim receiver, monitor, custodian, sequestrator, liquidator or any other person or entity with similar powers is appointed with respect to Tenant or a material portion of its business or assets or of the Premises or any portion thereof or interest therein, unless such appointment is being actively and diligently contested in good faith and is set aside, discharged, cancelled or annulled within 30 days after it is made; (e) this Lease or any material portion of Tenant's assets on the Premises are taken or seized under a writ of execution, assignment, pledge, charge, debenture, or other security instrument and such writ is not stayed or vacated within 15 days after the date of such taking; or (f) Tenant makes a sale in bulk of substantially all of its assets out of the ordinary course of business other than in conjunction with a Transfer permitted under this Lease;

18. **Remedies**. Upon the occurrence and during the continuation of any Event of Default, Landlord may, in addition to all other rights and remedies afforded Landlord hereunder or by law or equity, take any one or more of the following actions:

18.1 **Termination of Lease**. Terminate this Lease by written notice to Tenant or to re-enter the Premises and repossess them and, in either case enjoy them as of its former estate, and Landlord may remove all persons, entities and property from the Premises and store such property at the expense and risk of Tenant or sell or dispose of such property in such manner as Landlord sees fit without notice to Tenant;

18.2 **Termination of Possession**. Terminate Tenant's right to possess the Premises without terminating this Lease by giving written notice thereof to Tenant, in which event Tenant shall pay to Landlord (a) all Rent and other amounts accrued hereunder to the date of termination of possession, (b) amounts due from time to time under Section 19.1, and (c) Rent and other net sums required hereunder to be paid by Tenant during the remainder of the Term, diminished by any net sums thereafter received by Landlord through reletting the Premises during such period, after deducting all costs incurred by Landlord in reletting the Premises. If Landlord elects to terminate Tenant's right to possession without terminating this Lease, and to retake possession of the Premises (and Landlord shall have no duty to make such election), Landlord shall use reasonable efforts to relet the Premises as further described in Section 19.4 below. Landlord shall not be liable for, nor shall Tenant's obligations hereunder be diminished because of, Landlord's failure to relet the Premises or to collect rent due for such reletting despite such efforts. Tenant shall not be entitled to the excess of any consideration obtained by reletting over the Rent due hereunder. Reentry by Landlord in the Premises shall not affect Tenant's obligations hereunder for the unexpired Term; rather, Landlord may, from time to time, bring an action against Tenant to collect amounts due by Tenant, without the necessity of Landlord's waiting until the expiration of the Term. Unless Landlord delivers written notice to Tenant expressly stating that it has elected to terminate this Lease, all actions taken by Landlord to dispossess or exclude Tenant from the Premises shall be deemed to be taken under this Section 18.2. If Landlord elects to proceed under this Section 18.2, it may at any time elect to terminate this Lease under Section 18.1;

18.3 **Perform Acts on Behalf of Tenant**. Perform any act Tenant is obligated to perform under the terms of this Lease (and enter upon the Premises in connection therewith if necessary) in Tenant's name and on Tenant's behalf, without being liable for any claim for damages therefor, and Tenant shall reimburse Landlord on demand for any expenses which Landlord may incur in thus effecting compliance with Tenant's obligations under this Lease (including, but not limited to, collection costs and legal expenses), plus interest thereon at the Default Rate;

18.4 **Suspension of Services**. Suspend any above Building-standard services required to be provided by Landlord hereunder without being liable for any claim for damages therefor;

18.5 **Alteration of Locks**. Additionally, with or without notice, and to the extent permitted by Law, Landlord may in accordance with the exercise of its rights under Sections 18.1 and 18.2 alter locks or other security devices at the Premises to deprive Tenant of access thereto, and Landlord shall not be required to provide a new key or right of access to Tenant; or

18.6 **Recovery of Rent**. Recover from Tenant all arrears of Rent and any other monies payable by Tenant hereunder together with the current month's Rent and the next three months' instalments of Rent, which shall accrue on a day to day basis and shall immediately become due and payable as accelerated rent.

19. **Payment by Tenant; Non-Waiver; Cumulative Remedies; Mitigation of Damage**.

19.1 **Payment by Tenant**. Upon any Event of Default, Tenant shall pay to Landlord all amounts, costs, losses and/or expenses incurred, abated or foregone by Landlord (including court costs and reasonable attorneys' fees and expenses) in (1) obtaining possession of the Premise, (2) removing, storing and/or disposing of Tenant's or any other occupant's property, (3) repairing, restoring, altering, remodeling, or otherwise putting the Premises into condition acceptable to a new tenant, (4) if Tenant is dispossessed of the Premises and this Lease is not terminated, reletting all or any part of the Premises (including brokerage commissions, cost of tenant finish work, and other costs incidental to such reletting), (5) performing Tenant's obligations under this Lease which Tenant failed to perform, (6) e

nforcing, or advising Landlord of, its rights, remedies, and recourses arising out of the default, and (7) securing this Lease, including all commissions, allowances, reasonable attorneys' fees, and if this Lease or any amendment hereto contains any abated Rent granted by Landlord as an inducement or concession to secure this Lease or amendment hereto, the full amount of all Rent so abated, provided that in each case such amounts payable under this clause (7) shall be limited to the unamortized portion of such amounts remaining as of the date of the Event of Default, amortized on a straight line basis over the Term (as the same may have been extended), (and such abated amounts shall be payable immediately by Tenant to Landlord, without any obligation by Landlord to provide written notice thereof to Tenant, and Tenant's right to any abated rent accruing following such Event of Default shall immediately terminate).

19.2 **No Waiver**. Landlord's acceptance of Rent following an Event of Default shall not waive Landlord's rights regarding such Event of Default. No waiver by Landlord of any violation or breach of any of the terms contained herein shall waive Landlord's rights regarding any future violation of such term. Landlord's acceptance of any partial payment of Rent shall not waive Landlord's rights with regard to the remaining portion of the Rent that is due, regardless of any endorsement or other statement on any instrument delivered in payment of Rent or any writing delivered in connection therewith; accordingly, Landlord's acceptance of a partial payment of Rent shall not constitute an accord and satisfaction of the full amount of the Rent that is due.

19.3 **Cumulative Remedies**. Any and all remedies set forth in this Lease: (1) shall be in addition to any and all other remedies Landlord may have at law or in equity, (2) shall be cumulative, and (3) may be pursued successively or concurrently as Landlord may elect. The exercise of any remedy by Landlord shall not be deemed an election of remedies or preclude Landlord from exercising any other remedies in the future. Additionally, Tenant shall defend, indemnify and hold harmless Landlord, Landlord's Mortgagee and their respective representatives and agents from and against all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses (including reasonable attorneys' fees) arising from Tenant's failure to perform its obligations under this Lease in accordance with Tenant's indemnity obligations under Section 11.4 hereof.

19.4 **Mitigation of Damage**. The parties agree any duty imposed by Law on Landlord to mitigate damages after a default by Tenant under this Lease shall be satisfied in full if Landlord uses reasonable efforts to lease the Premises to another tenant or tenants (a "**Substitute Tenant**") in accordance with the following criteria: (1) Landlord shall have no obligation to solicit or entertain negotiations with any Substitute Tenant for the Premises until 45 days following the date upon which Landlord obtains full and complete possession of the Premises, free of any claims to possession of the Premises by any Tenant Party; (2) Landlord shall not be obligated to lease or show the Premises on a priority basis or offer the Premises to any prospective tenant when other space in the Project or the related complex is or soon will be available; (3) Landlord shall not be obligated to lease the Premises to a Substitute Tenant for less than the current fair market value of the Premises, as determined by Landlord in its sole but reasonable discretion, nor will Landlord be obligated to enter into a new lease for the Premises under other terms and conditions that are unacceptable to Landlord under Landlord's then-current leasing policies based on similar sized premises in the submarket in which the Building is located; (4) Landlord shall not be obligated to enter into a lease with a Substitute Tenant: (A) whose use would violate any restriction, covenant or requirement contained in the lease of another tenant in the Project or the related complex; (B) whose use would adversely affect the reputation of the Project or the related complex; (C) whose use would require any addition to or modification of the Premises or Project or the related complex in order to comply with applicable Law, including building codes; (D) who does not have, in Landlord's sole but commercially reasonable opinion, reasonably adequate creditworthiness based on similar sized entities leasing similar size premises in the submarket in which the Building is located; (E) that is a governmental entity, or quasi-governmental entity, or subdivision or agency thereof, or any other entity entitled to the defense of sovereign immunity that (i) is not typically found in Class A office buildings, (ii) could materially increase the pedestrian or vehicular traffic to the Project or (iii) otherwise does not meet Landlord's reasonable standards for tenants of the Project and the related complex; or (F) that does not meet Landlord's reasonable standards for tenants of the Project or the related complex or is otherwise incompatible with the character of the occupancy of the Project, as reasonably determined by Landlord; and (5) Landlord shall not be required to expend any amount of money to alter, remodel or otherwise make the Premises suitable for use by a Substitute Tenant unless Landlord, in Landlord's sole but reasonable discretion, determines any such expenditure is financially prudent in connection with entering into a lease with the Substitute Tenant. For purposes of this Section 19.4, all references to the related complex shall refer to the related complex for so long as the related complex is owned by Landlord or an Affiliate of Landlord.

20. **Asset Based Lending Financing**. Tenant shall be permitted without requiring the consent of Landlord to grant a security interest or chattel mortgage over Tenant's trade fixtures, furniture, equipment and other personal property located in or about the Premises to a recognized financial institution (including a bank and a trustee for bondholders) that from time to time has provided ABL Financing (defined below) to Tenant and/or one or more of its Affiliates (an "**ABL Lender**") to secure a bona fide corporate borrowing by Tenant and/or one or more of its Affiliates that is secured, in whole or in part, by the trade fixtures, furniture, equipment or other personal property of Tenant located in or about the Premises (an "**ABL Financing**"). Upon written request of any ABL Lender and at Tenant's sole cost, Landlord shall enter into an agreement (in this Section 20, a "**waiver of distress agreement**") with such ABL Lender in a form that is satisfactory to Landlord, Tenant and such ABL Lender, each acting reasonably. Such waiver of distress agreement shall contain: (a) a waiver of distress or other liens by Landlord in favour of such ABL Lender; (b) a right for such ABL Lender to enter into the Premises to enforce its rights with respect to Tenant's trade fixtures, furniture, equipment and other personal property located in or about the Premises over which such ABL Lender has security, which right shall be upon such commercially reasonable terms and conditions as the parties agree, acting reasonably, provided that the ABL Lender shall promptly repair any and all damage to the Premises and/or the Building, if any, caused by the ABL Lender or its agents or representatives resulting from the removal of such trade fixtures, furniture, equipment and other personal property from the Premises and other parts of the Building; and (c) such other commercially reasonable terms and conditions agreed upon by the parties, each acting reasonably.

21. **Surrender of Premises**. No act by Landlord shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept a surrender of the Premises shall be valid unless it is in writing and signed by Landlord. At the expiration or termination of this Lease or Tenant's right to possess the Premises, Tenant shall (a) deliver to Landlord the Premises broom-clean with all improvements located therein in good repair and condition, normal wear and tear excepted (except for condemnation and Casualty damage not caused by Tenant, as to which Sections 14 and 15 shall control), free of any liens or encumbrances and free of Hazardous Materials placed on the Premises during the Term by any Tenant Party; (b) deliver to Landlord all keys to the Premises and all access cards to the Project; (c) remove all unattached trade fixtures, furniture (including demountable walls), and personal property placed in the Premises or elsewhere in the Project by a Tenant Party and unattached equipment located in the Premises; and (d) subject to the provisions below, remove such alterations, additions, improvements, and Tenant's Off-Premises Equipment as Landlord may require; however, Tenant shall not be required to remove any addition or improvement to the Premises or the Project if (1) Landlord has specifically agreed in writing that the improvement or addition in question need not be removed; or (2) same do not exceed or differ in any material respect from customary, standard type of installations or improvements for general, executive and administrative offices in comparable buildings in the submarket in which the Building is located (the "**Standard Improvements**"); however, Tenant may be required by Landlord to remove any non-standard alterations, additions or improvements, including laboratories, server rooms, data centers, computer rooms, specialty ceilings, or any items that would have above-average demolition costs. Tenant shall repair all damage caused by the removal of the items described above. In connection with Landlord's review and approval of any of Tenant's proposed alterations, additions or improvements to the Premises, Landlord may notify Tenant in writing, contemporaneously with Landlord's notice of approval to Tenant with respect to the improvements in question, that Landlord will require Tenant to remove such alterations, additions or improvements prior to the expiration of the Term; however, if Tenant submits plans and specifications to Landlord for proposed alterations, additions or improvements to the Premises (including as part of the Work) and delivers a Removal Notice (defined below) to Landlord contemporaneously with such submission by Tenant, and Landlord fails to notify Tenant that Tenant will be required to remove such alterations, additions or improvements to the Premises at the expiration of the Term, Landlord may not request such removal at the expiration of the Term. A "**Removal Notice**" means a written notice from Tenant to Landlord that conspicuously states in bold, uppercase typeface that Tenant will not be required to remove the alterations, additions or improvements in question at the end of the Term unless, contemporaneously with Landlord's notice of approval to Tenant with respect to the improvements in question, Landlord notifies Tenant in writing that Landlord will require Tenant to remove such alterations prior to the expiration of the Term. Notwithstanding the foregoing, if Tenant does not obtain Landlord's prior written consent for any alterations, additions or improvements to the Premises (whether such approval is required hereunder or otherwise), Tenant shall remove all such alterations, additions, improvements, trade fixtures, personal property, equipment, wiring, conduits, cabling, and furniture (including Tenant's Off-Premises Equipment) as Landlord may request in writing (save and except for Standard Improvements). If Tenant fails to remove any property required to be removed by Tenant under the terms of this Lease within five days after termination or expiry of this Lease, Landlord may, at Landlord's option, (A) deem such items to have been abandoned by Tenant, the title

thereof shall immediately pass to Landlord at no cost to Landlord, and such items may be appropriated, sold, stored, destroyed, or otherwise disposed of by Landlord without notice to Tenant and without any obligation to account for such items; any such disposition shall not be considered a strict foreclosure or other exercise of Landlord's rights in respect of the security interest granted hereunder or otherwise, (B) remove such items, perform any work required to be performed by Tenant hereunder, and repair all damage caused by such work, and Tenant shall reimburse Landlord on demand for any expenses which Landlord may incur in effecting compliance with Tenant's obligations hereunder (including reasonable collection costs and attorneys' fees), plus interest thereon at the Default Rate, or (C) elect any of the actions described in clauses (A) and (B) above as Landlord may elect in its sole discretion. Further, and notwithstanding anything in this Lease to the contrary, in all cases Tenant shall be required to remove, and to restore the Premises or Project, as applicable, to their previous condition, any wiring and cabling installed in the Premises or elsewhere in the Project by or on behalf of any Tenant Party, any alterations or improvements to first floor lobby or elevator lobby areas, any alterations or relocations of base-Building's Systems, any improvements or signage incorporating Tenant's name or logo, internal stairwells, vaults, raised flooring, any alteration, improvement or equipment not complying with Laws and in each case installed by or on behalf of any Tenant Party, and, unless Landlord has expressly stated otherwise in writing, all of Tenant's Off-Premises Equipment, including any supplemental HVAC equipment, rooftop equipment, etc. The provisions of this Section 21 shall survive the end of the Term.

22. **Holding Over**. If Tenant fails to vacate the Premises at the end of the Term, then Tenant shall be a tenant at sufferance and, in addition to all other damages and remedies to which Landlord may be entitled for such holding over, (a) Tenant shall pay, in addition to the other Rent, Basic Rent equal to 150% of the Rent payable during the last month of the Term for the first 60 days, 200% thereafter, and (b) Tenant shall otherwise continue to be subject to all of Tenant's obligations under this Lease. The provisions of this Section 22 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises upon the termination or expiration of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, costs (including reasonable attorneys' fees) and liability resulting from such failure, including any claims made by any succeeding tenant founded upon such failure to surrender, and any lost profits or other consequential damages to Landlord resulting therefrom.

23. **Certain Rights Reserved by Landlord**. Landlord shall have the following rights:

23.1 **Building Operations**. To make inspections, repairs, alterations, additions, changes, or improvements, whether structural or otherwise, in and about the Project or any part thereof to the extent within Landlord's obligations or entitlements under this Lease; to enter upon the Premises (after giving Tenant at least two business days prior written notice thereof, except in cases of real or apparent emergency, in which case no notice shall be required) and, during the continuance of any such work, to temporarily close doors, entryways, public space, and corridors in the Building; to interrupt or temporarily suspend Building services and facilities and to change the name of the Building.

23.2 **Security**. To take such reasonable measures as Landlord deems advisable for the security of the Building; evacuating the Building for cause, suspected cause, or for drill purposes; temporarily denying access to the Building, subject, however, to Tenant's right to enter when the Building is closed after Normal Building Hours under such reasonable regulations as Landlord may prescribe from time to time, which may include, by way of example but not limitation, that persons entering or leaving the Building not during Normal Building Hours, present a valid access badge or otherwise identify themselves to a security officer by registration or otherwise and that such persons establish their right to enter or leave the Building;

23.3 **Prospective Purchasers and Lenders**. Upon at least one business day prior notice (which notice may be email notice to Tenant's representative at the Premises) to Tenant, to enter the Premises at all reasonable hours to show the Premises to investors, joint venture or other partners, lenders, purchasers of the Building and/or Landlord's Mortgagees (in each case, whether existing or prospective); and

23.4 **Prospective Tenants**. At any time during the last 21 months of the Term upon at least one business day prior notice (which notice may be email notice to Tenant's representative at the Premises) to Tenant, or at any time following the occurrence of an Event of Default, to enter the Premises at all reasonable hours to show the Premises to prospective tenants.

In exercising the foregoing rights in this Section 23, Landlord shall use all commercially reasonable efforts to avoid and if not avoidable, minimize and mitigate any interference with or disruption to Tenant's use and enjoyment of the Project and the undertaking of its business therefrom (including vehicular and pedestrian access to and from the Project and use of the Parking Area). To the extent that Landlord wishes to name the Building or the Project, Tenant shall have the first right and option to have the Building and/or Project named after its trade name and failing the exercise of such option the name of the Building and Project shall be subject to Tenant's prior written approval. In the event that Landlord changes the name of the Building and/or Project, it shall reimburse Tenant for Tenant's reasonable, actual, out-of-pocket costs incurred to reflect such change in name, including replacing its stationary and business cards on hand at the time of such name change. Notwithstanding Sections 23.3 and 23.4, (a) the persons visiting the Premises for these purposes shall be prohibited from taking any pictures or video capture within the Premises (Landlord and Tenant agree to cooperate to provide video and/or pictures of the Premises for marketing purposes); (b) Tenant shall be provided the opportunity to have its representatives accompany Landlord and any interested party in any site visit or showing and restrict or limit access to certain portions of the Premises (such as the laboratory/research and development space) as required by Tenant, acting reasonably, in order to protect proprietary or confidential information (Landlord acknowledging that the configuration and method of use of certain space in the Premises may in and of itself be proprietary and confidential); (c) Tenant shall be entitled to require that all such visitors be subjected to reasonable security measures and verification and to require each party to execute a reasonable confidentiality acknowledgement prior to accessing the Premises; and (d) any employees or representatives that are Primary Competitors (defined below) shall not be permitted to visit and tour the Premises during Tenant's occupancy thereof without Tenant's prior written consent.

24. **Substitution Space**. [Intentionally Deleted].

25. **Miscellaneous**.

25.1 **Landlord Transfer**. Landlord may transfer any portion of the Project and any of its rights under this Lease. If Landlord assigns its rights under this Lease, then Landlord shall thereby be released from any further obligations hereunder arising after the date of transfer, provided that the assignee assumes in writing Landlord's obligations hereunder arising from and after the transfer date.

25.2 **Landlord's Liability**.

25.2.1 If Landlord fails to perform any covenant, term or condition of this Lease upon Landlord's part to be performed, and if as a consequence of Landlord's default Tenant obtains a final non-appealable judgment of an Ontario court against Landlord for a liquidated sum of monetary damages, such judgment shall be satisfied only: (a) out of the proceeds of sale received upon execution of the judgment against the right, title and interest of Landlord in the Building; (b) out of the consideration received by Landlord from the sale or other disposition of all or any part of Landlord's right, title and interest in the Building, or (c) out of insurance or expropriation proceeds receivable or received by Landlord in respect of the Building and not applied to the restoration thereof. Tenant's rights under this Section 25.2 shall be in addition to, and not in lieu of, any right or remedy of Tenant to seek specific performance and other injunctive relief at law or in equity and Tenant's rights to offset Basic Rent as provided in Section 26.13.3 below.

25.2.2 Notwithstanding any other provision of this Lease and any rights that Tenant would otherwise have at law or equity, Tenant hereby irrevocably and unconditionally releases Landlord, each other Landlord Party and each Landlord's Mortgagee from all claims and losses in respect of any and all Excluded Damages, howsoever arising, whether sustained or incurred by Tenant or any other Tenant Party or any other person or entity.

25.2.3 "**Excluded Damages**" means, in respect of a person or entity, all claims or losses that are: (a) indirect, special or consequential damages of any nature whatsoever (including but not limited to loss of business income and expense incurred to minimize or avoid a loss of business income or a loss of service to customers); and (b) punitive, exemplary, aggravated and similar damages, in each case of the foregoing clauses (a) and (b), whether incurred or sustained by such person or entity, or whether claimed against such person or entity by another person or entity. "**Landlord Party**" means Landlord, and each of its

employees, officers, trustees, directors, agents, property managers, contractors, and others for whom it is in law responsible.

25.2.4 The provisions of this Section 25.2 shall survive any expiration or termination of this Lease.

25.3 **Force Majeure**. Notwithstanding any other provisions of this Lease, if and to the extent that either Landlord or Tenant is unable to fulfill or is delayed or restricted in the fulfillment of any obligation hereunder by reason of Unavoidable Delay, then either Landlord or Tenant, as the case may be, will, so long as such impediment exists, be deemed not to be in default in the performance of such obligation and any period for the performance of such obligation shall be extended accordingly and the other party to this Lease will not be entitled to exercise any rights or remedies as a result thereof or to receive compensation for any loss, inconvenience, nuisance or discomfort thereby occasioned, provided that in no event will Tenant be relieved of its obligation to pay Rent as it becomes due. “ **Unavoidable Delay** ” means any cause beyond the control of the party affected thereby which delays or prevents the performance by such party of any obligation under this Lease and is not caused by its default or negligence and is not avoidable by the exercise of reasonable care, including, without limitation, a strike, lockout or other labour dispute; inability to procure labour, materials or services; power failure; the enactment, amendment or repeal of any applicable Laws; riot; insurrection; sabotage; rebellion; war; a health or other emergency or act of God, but excluding lack of funds or financial inability.

25.4 **Brokerage**. Neither Landlord nor Tenant has dealt with any broker or agent in connection with the negotiation or execution of this Lease, other than CBRE, Ltd. and Colliers Macaulay Nicolls (Ontario) Inc., whose commissions shall be paid by Landlord pursuant to separate written agreements. Tenant and Landlord shall each indemnify the other against all costs, expenses, reasonable attorneys’ fees, liens and other liability for commissions or other compensation claimed by any other broker or agent claiming the same by, through, or under the indemnifying party.

25.5 **Estoppel Certificates**. From time to time (but no more than twice in any calendar year unless some event has occurred that necessitates Landlord’s request of such estoppel certificate, including a possible sale or financing of the Project), Tenant shall furnish to any party designated by Landlord, within ten business days after Landlord has made a request therefor, a certificate signed by Tenant substantially in the form of estoppel certificate attached hereto as **Exhibit G** (together with any additional reasonable estoppel statements requested by a current or prospective Landlord’s Mortgagee or prospective purchaser); provided, however, such form may be amended or modified to the extent any of the certifications or representations contained therein are not true as of the date Tenant executes the same. If Tenant does not deliver to Landlord the certificate signed by Tenant within such required time period, an Event of Default shall have occurred.

25.6 **Notices**. All notices and other communications given pursuant to this Lease shall be in writing and shall be delivered at the address specified in the Basic Lease Information as follows: (1) hand-delivered to the intended addressee, or (2) sent by a nationally recognized overnight courier service. All notices shall be effective upon delivery to the address of the addressee (even if such addressee refuses delivery thereof). The parties hereto may change their addresses by giving notice thereof to the other in conformity with this provision.

25.7 **Separability**. If any clause or provision of this Lease is illegal, invalid, or unenforceable under present or future laws, then the remainder of this Lease shall not be affected thereby and in lieu of such clause or provision, there shall be added as a part of this Lease a clause or provision as similar in terms to such illegal, invalid, or unenforceable clause or provision as may be possible and be legal, valid, and enforceable.

25.8 **Amendments; Binding Effect; No Electronic Records**. This Lease may not be amended except by instrument in writing signed by Landlord and Tenant. No provision of this Lease shall be deemed to have been waived by Landlord unless such waiver is in writing signed by Landlord, and no custom or practice which may evolve between the parties in the administration of the terms hereof shall waive or diminish the right of Landlord to insist upon the performance by Tenant in strict accordance with the terms hereof. Landlord and Tenant hereby agree not to conduct the transactions or communications contemplated by this Lease by electronic means, except by electronic

signatures as specifically set forth in Section 25.9; nor shall the use of the phrase “in writing” or the word “written” be construed to include electronic communications except by electronic signatures as specifically set forth in Section 25.9. The terms and conditions contained in this Lease shall inure to the benefit of and be binding upon the parties hereto, and upon their respective successors in interest and legal representatives, except as otherwise herein expressly provided. This Lease is for the sole benefit of Landlord and Tenant, and, other than Landlord’s Mortgagee, no third party shall be deemed a third party beneficiary hereof.

25.9 **Counterparts**. This Lease (and amendments to this Lease) may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of such counterparts shall constitute one document. To facilitate execution of this Lease, the parties may execute and exchange, by telephone facsimile or electronic mail PDF, counterparts of the signature pages. Signature pages may be detached from the counterparts and attached to a single copy of this Lease to physically form one document.

25.10 **Quiet Enjoyment**. Provided no Event of Default exists, Tenant shall peaceably and quietly hold and enjoy the Premises for the Term, without hindrance, interruption or interference from Landlord or any party claiming by, through, or under Landlord, but not otherwise, subject to the terms and conditions of this Lease and all matters of record as of the date of this Lease which are applicable to the Premises.

25.11 **No Merger**. There shall be no merger of the leasehold estate hereby created with the fee estate in the Premises or any part thereof if the same person acquires or holds, directly or indirectly, this Lease or any interest in this Lease and the fee estate in the leasehold Premises or any interest in such fee estate.

25.12 **No Offer**. The submission of this Lease to Tenant shall not be construed as an offer, and Tenant shall not have any rights under this Lease unless Landlord executes a copy of this Lease and delivers it to Tenant.

25.13 **Entire Agreement; No Reliance**. This Lease constitutes the entire agreement between Landlord and Tenant regarding the subject matter hereof and supersedes all verbal statements and prior writings relating thereto. Except for those set forth in this Lease, no representations, warranties, or agreements have been made by Landlord or Tenant to the other with respect to this Lease or the obligations of Landlord or Tenant in connection therewith. Except as otherwise provided herein, no subsequent alteration, amendment, change or addition to this Lease shall be binding unless in writing and signed by Landlord and Tenant. The normal rule of construction that any ambiguities be resolved against the drafting party shall not apply to the interpretation of this Lease or any exhibits or amendments hereto. Further, Tenant disclaims any reliance upon any and all representations, warranties or agreements not expressly set forth in this Lease.

25.14 **Governing Law**. This Lease shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein. Each of Landlord and Tenant attorns to the exclusive jurisdiction of the courts of the Province of Ontario.

25.15 **Recording**. No Tenant Party or anyone on behalf of a Tenant Party shall register this Lease against the Lands. Tenant may prepare and, following Landlord’s written approval thereof, register on title to the Lands, at Tenant’s cost, a notice or caveat in respect of this Lease (a “**Notice of Lease**”) which shall set forth only a description of the Premises, the Term, (including options to extend) and such other minimum information required under applicable Laws or reasonably requested by Tenant and which is in form satisfactory to Landlord, acting reasonably. Tenant shall provide a copy of such registered Notice of Lease to Landlord for its records and agrees that within ten business days after the expiration or earlier termination of this Lease, Tenant shall arrange for the discharge from title to the Lands of such Notice of Lease or any assignment or sublease or other document evidencing an interest of Tenant or anyone claiming through or under Tenant in respect of this Lease or the Premises. Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from and against any and all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses (including reasonable attorneys’ fees) arising from any Tenant Party’s failure to comply with the provisions of this Section 25.15. The provisions of this Section shall survive any expiration or termination of this Lease.

25.16 **Water or Mold Notification**. To the extent Tenant or its agents or employees discover any water leakage, water damage or mold in or about the Premises or Project, Tenant shall promptly notify Landlord thereof in writing.

25.17 **Joint and Several Liability**. If Tenant consists of more than one party (or if Tenant permits any other party to occupy the Premises), each such party shall be jointly and severally liable for Tenant's obligations under this Lease. All unperformed obligations of Tenant hereunder not fully performed at the end of the Term shall survive the end of the Term, including payment obligations with respect to Rent and all obligations concerning the condition and repair of the Premises.

25.18 **Financial Reports**. If Tenant or Guarantor is an entity that is domiciled in the United States of America or Canada, and whose securities are funded through a public securities exchange subject to regulation by the United States of America or Canada publicly traded over exchanges based in the United States or Canada and whose financial statements are readily available at no cost to Landlord, the terms of this Section 25.18 shall not apply. Otherwise, within 15 days after Landlord's request, Tenant will furnish Guarantor's most recent audited financial statements (including any notes to them) to Landlord, or, if no such audited statements have been prepared, such other financial statements (and notes to them) as may have been prepared by an independent certified public accountant. Tenant will discuss its financial statements with Landlord. Landlord will not disclose any aspect of Tenant's (or Guarantor's) financial statements that Tenant (or Guarantor) designates to Landlord as confidential except (1) to Landlord's Mortgagee or prospective mortgagees or purchasers of the Building, (2) in litigation between Landlord and Tenant, and/or (3) if required by Law or court order. Tenant shall not be required to deliver the financial statements required under this Section 25.18 more than once in any 12-month period unless requested by Landlord's Mortgagee or a prospective buyer or lender of the Building or an Event of Default occurs.

25.19 **Landlord's Fees**. Whenever Tenant requests Landlord to take any action not required of Landlord hereunder or give any consent required or permitted under this Lease, Tenant will reimburse Landlord for Landlord's reasonable, out-of-pocket costs payable to third parties and incurred by Landlord in reviewing and taking the proposed action or consent, including reasonable engineers' or architects' fees and reasonable attorneys' fees (including amounts allocated by Landlord to Landlord's in-house counsel as well as fees and expenses charged by outside counsel engaged by Landlord), within 30 days after Landlord's delivery to Tenant of a statement of such costs. Tenant will be obligated to make such reimbursement without regard to whether Landlord consents to any such proposed action.

25.20 **Telecommunications**. Tenant and its telecommunications companies, including local exchange telecommunications companies and alternative access vendor services companies, shall have a right of access to and within the Building, for the installation and operation of telecommunications systems, including voice, video, data, Internet, and any other services provided over wire, fiber optic, microwave, wireless, and any other transmission systems ("**Telecommunications Services**"), for part or all of Tenant's telecommunications within the Building and from the Building to any other location, provided Landlord has previously reviewed and approved all plans, specifications and contracts pertaining to telecommunication service entry points, and any documents to which Landlord is a party or which may encumber the Project, which consent will not be unreasonably withheld, conditioned or delayed. All providers of Telecommunications Services shall be required to comply with the rules and regulations of the Project, applicable Laws and Landlord's policies and practices for the Project, and shall be required, at Landlord's election, to enter into a license agreement with Landlord to confirm and approve items such as, without limitation, the proposed location (and labeling requirements) of wiring, cabling, fiber lines, points of demarcation, entry into the Project, insurance requirements and the like. Tenant acknowledges that Landlord shall not be required to provide or arrange for any Telecommunications Services and that Landlord shall have no liability to any Tenant Party in connection with the installation, operation or maintenance of Telecommunications Services or any equipment or facilities relating thereto. Tenant, at its cost and for its own account, shall be solely responsible for obtaining all Telecommunications Services.

25.21 **Confidentiality**. Tenant and Landlord each acknowledge that the terms and conditions of this Lease are to remain confidential for both parties' benefit, and may not be disclosed by either party to anyone, by any manner or means, directly or indirectly, without the other party's prior written consent; however, each party may disclose the terms and conditions of this Lease to its respective attorneys, accountants, employees and existing or

prospective financial partners (including lenders), Permitted Transferees or other transferees and, as to Landlord, any potential purchasers, brokers or any other party assisting Landlord in the sale or valuation of the Project, or if required by Law or court order or reporting requirements applicable to Tenant or Guarantor, provided all parties to whom Landlord or Tenant are permitted hereunder to disclose such terms and conditions are advised by such party of the confidential nature of such terms and conditions and agree to maintain the confidentiality thereof (in each case, prior to disclosure). The disclosing party shall be liable for any disclosures made in violation of this Section by Tenant or by any entity or individual to whom the terms of and conditions of this Lease were disclosed or made available by the disclosing party. The consent by a party to any disclosures shall not be deemed to be a waiver on the part of such party of any prohibition against any future disclosure. Landlord acknowledges that any information clearly marked "Confidential" (save and except what is in public domain) delivered or received by Landlord from Tenant shall remain confidential and proprietary to Tenant, and Landlord agrees to hold and keep such information confidential as and to the full extent provided herein. Landlord shall use its commercially reasonable efforts to exercise Landlord's rights to access the Premises under this Lease in a manner which respects and adheres to Tenant's security and confidentiality requirements.

25.22 **Authority**. Tenant (if a corporation, partnership or other business entity) hereby represents and warrants to Landlord that as of the date hereof Tenant is a duly formed and existing entity qualified to do business in the province in which the Premises are located, that Tenant has full right and authority to execute and deliver this Lease, and that each person signing on behalf of Tenant is authorized to do so. Landlord hereby represents and warrants to Tenant that Landlord is a duly formed and existing entity qualified to do business in the province in which the Premises are located, that Landlord has full right and authority to execute and deliver this Lease, and that each person signing on behalf of Landlord is authorized to do so.

25.23 **Hazardous Materials**. The term "**Hazardous Materials**" means any substance, material, or waste which is now or hereafter classified or considered to be hazardous, toxic, or dangerous under any Law relating to pollution or the protection or regulation of human health, natural resources or the environment, or poses or threatens to pose a hazard to the health or safety of persons on the Premises or in the Project. No Tenant Party shall use, generate, store or Release (defined below), or permit the use, generation, storage or Release of Hazardous Materials on or about the Premises or the Project except in a manner and quantity necessary for the ordinary performance of Tenant's business, and then in compliance with all Laws and in a reasonable and prudent manner. As used herein, "**Release**" means depositing, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing. Tenant shall notify Landlord promptly, and in reasonable detail, if and when Tenant becomes aware of any Release of Hazardous Materials, setting forth in writing the action which Tenant intends to take with respect to such matter, to the extent Tenant is responsible for such matter under this Lease. If any Tenant Party breaches its obligations under this Section 25.23, upon five business days' notice to Tenant (provided, however, if Tenant has commenced to cure such breach and is diligently pursuing the cure to completion, Landlord may not take such action until ten business days after notice to Tenant) (except in the case of emergency in which no notice is required) Landlord may take any and all action reasonably appropriate to remedy the same (including encapsulation of such material, removal of such material, or other remedial action that may be required by Law) and thereafter diligently pursue such action to completion, including taking all appropriate action to clean up or remediate any contamination resulting from such Tenant Party's use, generation, storage or disposal of Hazardous Materials as required by Law. Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from and against any and all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses (including reasonable attorneys' fees and cost of clean up and remediation) arising from any Tenant Party's failure to comply with the provisions of this Section 25.23 in accordance with Tenant's indemnity obligations under Section 11.4 hereof. Subject to Section 11.3, Landlord shall indemnify and hold Tenant harmless from any and all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses (including reasonable attorneys' fees and cost of clean up and remediation) actually incurred by Tenant as a result of a claim brought against Tenant by any third party (not including any Tenant Party) due to (a) any default by Landlord, beyond any applicable notice and cure and cure period, under this Section 25.23, (b) the breach of Landlord's representations and warranties in Section 26.15.8 below, or (c) the presence of Hazardous Materials located in or on the Project as of the Lease Date, at concentrations exceeding those allowed by applicable environmental Laws and not introduced by any Tenant Party. Tenant shall not undertake any invasive investigation of the soil or groundwater at the Project unless necessary to use the Premises as intended, and only then with Landlord's prior written consent, which consent may be withheld in Landlord's sole and absolute discretion. Notwithstanding the foregoing, if Tenant

discovers that Hazardous Materials (other than such materials placed in the Premises by a Tenant Party and other than those in non-reportable quantities that are customarily used in connection with the operation and maintenance of the Premises) are located in the Premises at concentrations exceeding those allowed by applicable environmental Laws, Tenant shall immediately notify Landlord in writing. Landlord shall take such action in connection therewith as is required by applicable Laws, taking into account the commercial use of the Premises. If any action or proceeding is brought against Tenant with respect to which indemnity may be sought by Tenant under this Section 25.23, Landlord, upon written notice from Tenant, will assume the investigation and defense thereof, including the employment of counsel (selected by Landlord in its sole discretion) and payment of all related expenses. Tenant will have the right to employ separate counsel in any such action or proceeding and to participate in the defense thereof, but Landlord will not be required to pay the fees and expenses of such separate counsel unless such separate counsel is employed with the written approval and consent of Landlord, which approval or consent shall be in Landlord's sole discretion, or if there is a conflict of interest between the parties regarding the proceeding. These indemnity provisions are intended to allocate responsibility between Landlord and Tenant under environmental Laws and shall survive termination or expiration of this Lease. If any Hazardous Materials are located in the Building or in, on, under or about the Project (other than such materials placed in the Building or Project by a Tenant Party), Landlord shall promptly take such action in connection therewith as may be (and within the time frame) required by Law (including encapsulation of such material, removal of such material, or other remedial action that may be required by Law) and thereafter diligently pursue such action to completion. Tenant acknowledges receipt of the Phase I Environmental Site Assessment dated April 2014 prepared by Conestoga-Rovers & Associates as Report No. 23. Notwithstanding the foregoing and any other provision of this Lease, Tenant has no obligation to undertake the cleaning up, remediating, containing, and/or restoring of any Hazardous Materials in, at, on, above, below or around the Project or any part(s) thereof that were not caused or contributed to by any Tenant Party.

25.24 **List of Exhibits**. All exhibits and attachments attached hereto are incorporated herein by this reference.

- Exhibit A - Site Plan
- Exhibit B - Outline of Premises
- Exhibit C - Description of the Land
- Exhibit D - Building Rules and Regulations
- Exhibit E - Tenant Finish-Work: Allowance (Tenant Performs the Work)
- Exhibit F - Form of Confirmation of Commencement Date Letter
- Exhibit G - Form of Tenant Estoppel Certificate
- Exhibit H - Parking
- Exhibit I - Extension Option
- Exhibit J - Right of First Offer (4000 Innovation)
- Exhibit K - Guarantee
- Exhibit L - Depiction of Tenant's Logo
- Exhibit M - Building Sign
- Exhibit N - Form of Lease Recognition and Non-Disturbance Agreement
- Exhibit O - Primary Competitors
- Exhibit P - Right of First Refusal (5050 Innovation)
- Exhibit Q - Landlord Repair Obligations
- Exhibit R - Disclosure Documents

25.25 **Time of the Essence**. Time is of the essence of this Lease and every part hereof.

25.26 **Planning Act**. This Lease is expressly conditional upon compliance with the provisions of Section 50 of the *Planning Act* (Ontario) and any amendments thereto, if applicable. Landlord shall use its commercially reasonable efforts to obtain any consents or approvals necessary for compliance with any applicable provisions of Section 50 of the *Planning Act* (Ontario) and any amendments thereto and until such time the Term of this Lease shall be limited to the maximum term less one (1) day permitted under said Act.

25.27 **Currency**. All Rent and other amounts of money in this Lease are expressed in and refer to Canadian dollars and shall be paid in the lawful currency of Canada.

25.28 **Cross Default**. An event of default (beyond any applicable notice, grace and cure periods) under the New Buildings Lease between Landlord or Landlord's Affiliate and Tenant shall constitute an Event of Default under this Lease, and any Event of Default under this Lease shall constitute an event of default under the New Buildings Lease between Landlord or Landlord's Affiliate and Tenant (without any obligation to give Tenant any notice or opportunity to cure period thereunder).

26. **Other Provisions**.

26.1 **Building Directory Lobby Signage**. Landlord shall include Tenant's information in any Building directory located in the lobby of the Building, if any.

26.2 **Monument Signage**. Subject to Landlord's and all applicable authorities' prior approval of the location, design, size, color, material composition and plans and specifications therefor, and provided that the lettering consists of Tenant's name and/or logo as depicted on Exhibit L hereto, Tenant may, at its sole risk and expense, construct a monument sign (the "**Monument Sign**") displaying Tenant's name and/or logo on the Building grounds. If Landlord grants its approval, Tenant shall erect the Monument Sign in accordance with the approved plans and specifications, in a good and workmanlike manner, in accordance with all Laws, regulations, restrictions (governmental or otherwise), and architectural guidelines in effect for the area in which the Building is located, so long as Tenant has received all requisite approvals thereunder (the "**Sign Requirements**"), and in a manner so as not to unreasonably interfere with the use of the Project grounds while such construction is taking place; thereafter, Tenant shall maintain the Monument Sign in a good, clean and safe condition in accordance with the Sign Requirements, all at Tenant's sole cost and expense. If Tenant fails to maintain the Monument Sign in accordance with the terms of this Lease within five days after Landlord's written request therefor, then Landlord may elect to repair and maintain the Monument Sign at Tenant's expense. If at any time any portion of the illumination feature of the Monument Sign fails such that the Monument Sign is not properly illuminated for a period of 30 consecutive days or more, such illumination feature may be disabled by Landlord at Tenant's expense, and such feature shall not be used until the same has been repaired. Tenant shall install the Monument Sign within 36 months following the Commencement Date, or Tenant's rights under this Section 26.2 shall expire, time being of the essence with respect thereto. The rights granted to Tenant under this Section 26.2 are personal to Ciena Canada, Inc., may not be assigned to any party other than a Permitted Transferee and may be revoked by Landlord if Tenant or its Permitted Transferee ceases to occupy at least 50% of the rentable square feet in the Premises required to be leased by Tenant. So long as Tenant is the only tenant of the Project, no other person may display its name on the Monument Sign. Any changes or additions to Tenant's lettering shall be subject to Landlord's prior written approval, which approval may be withheld in Landlord's reasonable discretion, and shall be made at Tenant's (or its Permitted Transferee's) sole cost and expense. For all purposes under this Lease, the Monument Sign shall be deemed to be included within the definition of Tenant's Off-Premises Equipment.

26.3 **Building Fascia Signage**. Subject to Landlord's prior approval of the location, design, size, color, material composition and plans and specifications therefor, Tenant may construct and install, at Tenant's cost and expense, building fascia signage on the Building (hereinafter, collectively the "**Building Sign**") which Tenant shall be entitled to maintain on the Building for the Term and any extension subject to the terms of this Section 26.3. A conceptual mock-up of the Building Sign is attached hereto as Exhibit M. Landlord will not unreasonably withhold, condition or delay its consent to Tenant's Building Sign provided the Building Sign consists of Tenant's standard name and/or logo depicted on Exhibit L hereto. If Landlord grants its approval, Tenant shall erect the Building Sign in accordance with the Sign Requirements, and in a manner so as not to unreasonably interfere with the use of the Project while such construction is taking place; thereafter, Tenant shall maintain the Building Sign in a good, clean and safe condition in accordance with the Sign Requirements, all at Tenant's sole cost and expense. If Tenant fails to maintain the Building Sign in accordance with the terms of this Lease within five days after Landlord's written request therefor, then Landlord may elect to repair and maintain the Building Sign at Tenant's expense. If at any time any portion of the illumination feature of the Building Sign fails such that the Building Sign is not properly illuminated for a period of 30 consecutive days or more, such illumination feature may be disabled by Landlord at Tenant's expense, and such feature shall not be used until the same has been repaired. After the end of the Term or after Tenant's right to possess

the Premises has been terminated, Tenant shall remove the Building Sign, repair all damage caused thereby and restore the Building to its condition before the installation of the Building Sign. If Tenant fails to do so prior to such date, Landlord may, without compensation to Tenant, at Tenant's expense, remove the Building Sign, perform the related restoration and repair work and dispose of the Building Sign in any manner Landlord deems appropriate. The rights granted to Tenant under this Section 26.3 are personal to Ciena Canada, Inc., may not be assigned to any party other than Permitted Transferee and may be revoked by Landlord if Tenant or its Permitted Transferee ceases to occupy at least 50% of the rentable square feet in the Premises required to be leased by Tenant. Any changes or additions to Tenant's Building Sign shall be subject to Landlord's prior written approval, which approval may be withheld in Landlord's reasonable discretion, and shall be made at Tenant's sole cost and expense. For all purposes under this Lease, the Building Sign shall be deemed to be included within the definition of Tenant's Off-Premises Equipment. So long as Tenant is the only tenant of the Project, no other person may display its name on the fascia of the Building.

26.4 **Flag Signage**. Subject to Landlord's and all applicable authorities' prior approval of the location, design, size, color, material composition and plans and specifications therefor, and provided that the lettering consists of Tenant's name and/or logo as depicted on Exhibit L hereto, Tenant may, at its sole risk and expense, construct up to two flag poles on the Project grounds (collectively, the "**Flag Signage**"). If Landlord grants its approval, Tenant shall erect the Flag Signage in accordance with the Sign Requirements, and in a manner so as not to unreasonably interfere with the use of the Project grounds while such construction is taking place; thereafter, Tenant shall maintain the Flag Signage in a good, clean and safe condition in accordance with the Sign Requirements, all at Tenant's sole cost and expense. If Tenant fails to maintain the Flag Signage in accordance with the terms of this Lease within five days after Landlord's written request therefor, then Landlord may elect to repair and maintain the Flag Signage at Tenant's expense. The rights granted to Tenant under this Section 26.4 are personal to Ciena Canada, Inc., may not be assigned to any party other than a Permitted Transferee and may be revoked by Landlord if Tenant or its Permitted Transferee ceases to occupy at least 50% of the rentable square feet in the Premises required to be leased by Tenant. So long as Tenant is the only tenant of the Project, no other person may display its name on the Flag Signage. Any changes or additions to Tenant's lettering shall be subject to Landlord's prior written approval, which approval may be withheld in Landlord's reasonable discretion, and shall be made at Tenant's (or its Permitted Transferee's) sole cost and expense. For all purposes under this Lease, the Flag Signage shall be deemed to be included within the definition of Tenant's Off-Premises Equipment.

26.5 **Attorneys' Fees**. If there is any legal or arbitration action or proceeding between Landlord and Tenant to enforce any provision of this Lease or to protect or establish any right or remedy of either Landlord or Tenant hereunder, the unsuccessful party to such action or proceeding will pay to the prevailing party all reasonable, actual out-of-pocket costs and expenses paid or payable to third parties, including reasonable attorneys' fees incurred by such prevailing party in such action or proceeding and in any appeal in connection therewith, and if such prevailing party recovers a judgment in any such action, proceeding or appeal, such costs, expenses and attorneys' fees will be determined by the court or arbitration panel handling the proceeding and will be included in and as a part of such judgment.

26.6 **Tenant's Cancellation Right**. Tenant may cancel this Lease effective as of the last day of the 156th Lease Month by delivering to Landlord at least 18 full calendar months before the cancellation date written notice thereof. No penalty or termination cost, fee or expense, nor any reimbursement of any unamortized tenant improvement allowance shall be payable by Tenant in connection with such cancellation. As a condition to the effectiveness of Tenant's cancellation right, Tenant shall pay to Landlord on or prior to the cancellation date any past-due amounts then outstanding under the Lease. Tenant's rights under this Section 26.6 shall terminate, at Landlord's option, if (a) an Event of Default exists when Tenant delivers the cancellation notice or on the cancellation date, (b) Tenant assigns its interest in this Lease other than to a Permitted Transferee, or (c) Tenant fails timely to deliver the cancellation notice or is otherwise unable to exercise this cancellation right, time being of the essence with respect thereto. If Tenant delivers the cancellation notice to Landlord, Tenant shall have no further rights to extend or renew the Term under this Lease, and shall have no option to lease additional space in the Project or related complex or any rights of first offer, rights of first opportunity or rights of first refusal with respect to space in the Project or related complex; accordingly any provision of this Lease granting Tenant an extension or renewal option or any option to lease additional space in the Project or related complex or any rights of first offer, rights of first opportunity or rights of first

refusal with respect to space in the Project or related complex shall be automatically deleted in their entirety as of the date of Tenant's delivery of the cancellation notice to Landlord, without the need for any additional documentation.

26.7 **Security System**. Tenant may, at its sole cost and expense, install an electronic card key system within the Premises. To the extent that Landlord installs an electronic card key system serving the Building, Tenant shall be responsible for ensuring that its card key system is compatible with the card key system serving the Building. Tenant shall furnish Landlord with a copy of all key codes or access cards and Tenant shall ensure that Landlord shall have access to the Premises at all times. Additionally, Tenant shall ensure that such system shall comply with all Laws, including all fire safety laws, and in no event shall Landlord be liable for, and Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from any claims, demands, liabilities, causes of action, suits, judgments, damages and expenses arising from, such system or the malfunctioning thereof in accordance with Tenant's indemnity contained in Section 11.4 hereof. Sections 8 and 21 of this Lease shall govern the installation, maintenance and Landlord's removal rights with respect to such security system.

26.8 **Guarantee**. As additional consideration for Landlord to enter into this Lease, Tenant shall cause Guarantor (as defined in Exhibit K) to execute the guarantee, attached hereto as Exhibit K and Tenant shall deliver same to Landlord contemporaneously with Tenant's execution hereof. Tenant's failure to deliver such guarantee as required in the preceding sentence shall be an automatic Event of Default under this Lease, with no notice being necessary to Tenant, and Landlord shall be entitled to exercise any and all rights and remedies available to it hereunder, as well as at law or in equity. Additionally, if Tenant fails to deliver such guarantee, Landlord, notwithstanding anything to the contrary contained in this Lease, (a) shall not be required to perform any tenant improvement work in the Premises, (b) shall not be required to make any reimbursements or allowances in connection with any tenant improvement work, (c) shall not be required to pay any brokerage commissions to the broker or brokers representing Tenant in connection with this Lease (and Tenant shall indemnify Landlord against all costs, expenses, attorneys' fees, and other liability for commissions or other compensation claimed by any broker or agent claiming the same by, through, or under Tenant), (d) may terminate this Lease by providing Tenant five days advance written notice thereof, and (e) shall not be required to honor any extension rights, renewal rights, expansion rights, rights of first offer, preferential rights to lease, or rights of first refusal set forth in this Lease, if any.

26.9 **New Buildings Lease**. Landlord, or its Affiliate(s), intends to enter into one or more leases with Tenant for new buildings to be constructed by Landlord within the related complex (whether one or more, the "**New Buildings Lease**"). To the extent that the Term of this Lease is not coterminous with the lease term of the New Buildings Lease, Landlord and Tenant shall execute an amendment to this Lease (if the Term of this Lease expires prior to the lease term of the New Buildings Lease) extending the Term to be coterminous with the lease term of the New Buildings Lease and otherwise on the same terms and conditions provided in this Lease.

26.10 **Arbitration Regarding Additional Rent**. All disputes, controversies or claims regarding calculations of Additional Rent may be determined and finally resolved in the following manner:

26.10.1 The dispute shall be submitted to a single arbitrator to be agreed upon by the parties, provided that if a single arbitrator cannot be agreed upon by the parties within ten (10) days after the appointment of a single arbitrator has been requested by one of the parties in writing, then the dispute shall be referred to a board of three (3) arbitrators, one to be appointed by each of Landlord and Tenant and a third arbitrator to be appointed by the first two appointed arbitrators. If the first two arbitrators do not agree within a period of ten (10) days upon the appointment of the third arbitrator, then upon the application of either Landlord or Tenant, the third arbitrator shall be appointed by a Judge of the Superior Court of Ontario. Each arbitrator shall be an independent, professionally accredited chartered accountant qualified to perform the functions required of him or her pursuant to this Section 26.10.

26.10.2 If either Landlord or Tenant shall refuse or neglect to appoint an arbitrator within ten (10) days after the other party shall have appointed an arbitrator, and shall have served a written notice upon the party so refusing or neglecting to appoint an arbitrator requiring such party to make such appointment, then the arbitrator first appointed shall, at the request of the party appointing him, proceed to hear and determine the dispute as if he were a single arbitrator appointed by both Landlord and Tenant for that purpose.

26.10.3 The determination which shall be made by the said arbitrators or a majority of them, or by the single arbitrator, as the case may be, shall be final and binding upon the parties hereto and the costs of the arbitration and remuneration of the third arbitrator, if any, shall be borne equally between the parties hereto, each of the parties bearing the remuneration of the arbitrator appointed by it.

26.10.4 The provisions of this paragraph shall be deemed to be submission to arbitration, to be held in the City of Ottawa, within the provisions of the Arbitration Act, 1991 (Ontario) and any statutory modification or re-enactment thereof; provided that any limitation on the remuneration of arbitrators imposed by such legislation shall not have application to any arbitration proceeding commenced pursuant to this paragraph.

26.11 **No Operating Covenant**. Tenant shall not be obligated to continuously use or to occupy the Premises or parts thereof, but shall continue to be obligated to make its payments of Rent and comply with its other obligations under this Lease.

26.12 **Exercise of Approval Rights**.

26.12.1 **Time Limits**. Whenever in this Lease the consent or approval of either Landlord or Tenant is required, such consent or approval shall be given or withheld, as the case may be, within the time limit set forth therein for such consent or approval or, if no time limit is specified, within not more than ten (10) business days following receipt or written notice of the matter to be approved or disapproved (such time limit being in this Section 26.12 referred to as the “**Time Limit**”). Unless the contrary is expressly provided for in this Lease:

(a) the party requesting the approval shall at the time of its request, in writing, notify the party whose approval is required of the section or sections in this Lease which pertain to the matter to be approved and references the Time Limit;

(b) the party whose approval is required will within the Time Limit notify the requesting party in writing either that it approves, or that it withholds its approval, setting forth in reasonable detail its reasons for withholding; and

(c) the party requesting the approval shall consult the party whose approval is required and provide any information concerning the same requested by the party whose approval is required.

26.12.2 **Approval Standard**. Except as otherwise provided in this Lease, consent or approval shall not be unreasonably withheld, conditioned or delayed and the right to consent or approve and the exercise of judgment and discretion shall be exercised responsibly, and any refusal to consent and any disapproval shall be in writing and shall specify with particularity the reasons therefor. However, wherever in this Lease, Landlord or Tenant are given the right to consent or refuse to consent or to approve or disapprove unreasonably, arbitrarily or in its sole discretion, it may consent, refuse to consent, approve or disapprove unreasonably, arbitrarily, in its sole discretion and without any reason and need not specify in writing any reason therefore.

26.13 **Landlord's Default**.

26.13.1 **General Provisions**. Landlord shall be in default under this Lease if Landlord fails to perform any of its obligations hereunder following the Commencement Date and such failure continues for 30 days after Tenant delivers to Landlord written notice specifying such failure; however, if such failure cannot reasonably be cured within such 30-day period, but Landlord commences to cure such failure within such 30-day period and thereafter diligently pursues the curing thereof to completion, then Landlord shall not be in default hereunder or liable for damages therefor. Except as provided below in this Section 26.13, and except where the provisions of this Lease grant Tenant an express, exclusive remedy, or expressly deny Tenant

a remedy, Tenant's exclusive remedy for Landlord's failure to perform its obligations under this Lease shall be limited to damages, injunctive relief, or specific performance; in each case, Landlord's liability or obligations with respect to any such remedy shall be limited as provided in Section 25.2.

26.13.2 **Tenant's Right of Self-Help**. If Landlord is in default of this Lease as provided in Section 26.13.1 above after the notice and cure period described therein and Landlord does not dispute in good faith that Landlord is obligated pursuant to the terms of this Lease to perform the obligation in question, Tenant shall have the right to cure such default as more particularly described below after giving an additional written notice (the "**Second Notice**") to Landlord. If such default remains uncured for an additional ten business days after Landlord's receipt of the Second Notice, and such failure by Landlord materially and adversely affects Tenant's use or occupancy of the Premises, then, provided no Event of Default by Tenant then exists, Tenant may perform such obligation in good and workmanlike manner and compliance with all Laws and this Lease. Thereafter Landlord shall pay to Tenant the reasonable out-of-pocket costs actually incurred by Tenant to cure such default within 30 days following receipt by Landlord of the paid invoices therefor. Notwithstanding anything to the contrary contained herein, if the obligation to be performed by Tenant will affect the Building's Systems or the Building's Structure, Tenant shall use only those contractors used by Landlord in the Project for work on such systems or structure, as applicable. All other contractors that have not been previously approved by Landlord shall be subject to Landlord's reasonable approval and Landlord agrees to approve or reject any contractor proposed to be used by Tenant within 48 hours of receipt of the Second Notice; provided that if a proposed contractor is duly licensed, bonded, is able to satisfy Landlord's vendor insurance requirements, perform similar work in comparable buildings and Landlord does not have a reasonable objection to the use of such contractor, Landlord agrees not to withhold its approval of the proposed contractor. Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from and against all claims, demands, liabilities, causes of action, suits, judgments, damages, and expenses (including reasonable attorneys' fees) arising from Tenant's exercise of such self-help rights in accordance with Tenant's indemnity contained in Section 11.4 hereof.

26.13.3 **Tenant's Offset Right**. If Landlord fails to pay the amounts owed by Landlord to Tenant as provided in Section 26.13.2 above within such 30-day period, Tenant may offset such costs that are not in good faith disputed by Landlord against Tenant's next accruing installments of Basic Rent until Tenant has been reimbursed for such costs; provided, however, that the amount offset against Basic Rent in any single month shall not exceed 50% of the Basic Rent payable for such month.

26.14 **Roof Rights**. Provided that Tenant complies with terms of this Section 26.14, during the Term and any extensions thereof, Landlord agrees to allow Tenant to place and maintain, at Tenant's risk and expense, antennae, and non-penetrating satellite dishes, voice, fiber optic, video, data, and internet and other telecommunications communications equipment, including all required equipment, infrastructure, conduits, chase ways and connectivity required to operate them (the "**Telecom Equipment**"), on the rooftop of the Building at a location approved by Landlord. That portion of the rooftop of the Building made available by Landlord for equipment of tenants of the Project shall be for the exclusive use of Tenant save and except in the event Tenant ceases to occupy 100% of the Building, in which event: (a) Tenant shall retain the exclusive right and entitlement to the use of that portion of the rooftop area over the laboratory areas on the first floor of the Premises; (b) Tenant shall also retain the exclusive right and entitlement of the areas where it maintains its equipment together with a proportionate share of that portion of the remaining area of the roof of the Building made available by Landlord for equipment of tenants of the Project (e.g. if Tenant occupies 50% of the rentable area of the Building, then it shall be entitled to the exclusive use of that portion of 50% of the available area made available by Landlord for equipment of tenants of the Project of the roof); (c) Landlord shall only permit installations on the roof by third parties if they do not damage or materially interfere with Tenant's business, security or equipment at the Premises; (d) Landlord covenants and agrees not to permit the use of any space on the roof by any Primary Competitor without Tenant's prior written consent; and (e) Tenant shall be entitled to screen/fence off its Telecom Equipment, at its expense, subject to Landlord's approval which cannot be unreasonably withheld, conditioned or delayed. Tenant acknowledges and agrees that Landlord may take into account aesthetics to ensure that such screen/fence does not visibly or physically detract from the façade of the Building and surrounding business park. The installation of Tenant's Telecom Equipment shall be subject to Tenant providing Landlord with detailed designs and specifications, all necessary consents, approvals, permits or registrations, including architectural guidelines in effect

for the area in which the Building is located as they may be amended from time to time, required for the installation, maintenance, use or operation of the Telecom Equipment and Landlord, and its consultants and engineers, approving and reviewing said designs and specifications, which approval shall not be unreasonably withheld. Notwithstanding anything to the contrary contained herein, Landlord may withhold its consent to the installation of the Telecom Equipment if such installation would require any penetration of the Building's roof. If the Telecom Equipment uses any electricity, Tenant shall pay for the cost to purchase and install electrical submeter equipment and wiring, and thereafter Tenant shall pay to Landlord the monthly electrical submeter charges throughout the Term. Landlord's approval of any such plans and specifications shall not constitute a representation or warranty by Landlord that such plans and specifications comply with sound architectural guidelines and/or engineering practices or will comply with all applicable Laws; such compliance shall be the sole responsibility of Tenant. All third-party costs of Landlord relating to such approval and review are to be borne by Tenant. Tenant shall install the Telecom Equipment in accordance with the detailed designs and specifications submitted and approved by Landlord per the above and shall take such necessary measures to ensure that it does not interfere with any equipment, installation, dish and/or antennae and/or other communication system on or near the Building then in existence at the time of installation. Upon expiry or termination of this Lease, Tenant shall be responsible for all costs for the removal of the Telecom Equipment, repairing any damage incurred to the roof of the Building as a result of its access, installation and removal of the Telecom Equipment, and restoring the roof to the condition in which it were prior to the installation of the Telecom Equipment, subject to reasonable wear and tear. Tenant shall, at its own expense, maintain and insure the Telecom Equipment during the Term and any extensions thereof. Tenant shall operate and maintain the Telecom Equipment and the screening therefor in good repair and condition, in accordance with all Laws, all manufacturer's suggested maintenance programs, and the approved plans and specifications therefor, all at Tenant's sole cost and expense. In addition to Tenant's other obligations hereunder, Tenant, at its own cost and expense, shall enter into a regularly scheduled preventive maintenance/service contract with a maintenance contractor approved by Landlord for servicing the Telecom Equipment and associated equipment within or serving the Premises. The service contract must include all services suggested by the equipment manufacturer in its operations/maintenance manual and an executed copy of such contract (which may be redacted to remove any confidential information unrelated to the scope of work covered thereby) must be provided to Landlord. All work relating to the Telecom Equipment shall, at Tenant's expense, be coordinated with Landlord's roofing contractor so as not to affect any warranty for the Building's roof. Tenant may not relocate any of the Telecom Equipment without the prior written consent of Landlord. Tenant agrees that, upon at least 30 days' prior written notice to Tenant from Landlord that Landlord requires Tenant to relocate any Telecom Equipment (which notice may be given at any time and from time to time during the Term), Tenant shall relocate such Telecom Equipment (as requested by Landlord) from the then existing location to any substitute location reasonably designated by Landlord on the Building. Tenant shall complete such relocation prior to the expiration of such 30-day period and upon the expiration of such 30-day period Tenant shall have no further right to use or occupy the prior location until the completion of such roof repair or replacement, at which time Landlord may notify Tenant to relocate back to the original location and Tenant will perform such relocation as soon as reasonably practicable after such notice. In the event Landlord exercises its right to cause Tenant to relocate all or a portion of the Telecom Equipment pursuant this Section 26.14, Landlord shall use its commercially reasonable efforts to minimize any disruption to Tenant's operations as a result thereof. Tenant shall repair all damage to the Building caused by the installation, maintenance or removal of the Telecom Equipment at any such prior rooftop locations. Any and all costs and expenses associated with the relocation of any such Telecom Equipment and related restoration work in order to accommodate the repair, replacement or maintenance of the roof or other area of the Building, or equipment associated with any of the foregoing, shall be paid by Tenant within 30 days following Landlord's request therefor. Otherwise, any such relocation and related restoration shall be at Landlord's cost and expense. Tenant and Tenant Parties shall have access to the rooftop of the Building at all times during the Term, at Tenant's sole risk. For all purposes under this Lease, the Telecom Equipment shall be deemed to be included within the definition of Tenant's Off-Premises Equipment. **LANDLORD SHALL HAVE NO RESPONSIBILITY OR LIABILITY TO TENANT, ITS AGENTS, EMPLOYEES, CONTRACTORS, VISITORS OR INVITEES FOR, LOSSES, DAMAGES OR INJURY TO PERSONS OR PROPERTY CAUSED BY, RELATED TO, OR ARISING OUT OF OR IN CONNECTION WITH, ANY SUCH CONNECTION TO, USE OF, OR FAILURE, NON-PERFORMANCE OR INADEQUATE PERFORMANCE OF, THE TELECOM EQUIPMENT, AND TENANT HEREBY RELEASES LANDLORD FROM ANY AND ALL LIABILITY FOR SUCH LOSSES, DAMAGES OR INJURY, EVEN IF CAUSED BY THE NEGLIGENCE OF LANDLORD OR ITS EMPLOYEES AND/OR AGENTS (BUT NOT TO THE EXTENT CAUSED BY THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF LANDLORD OR ITS EMPLOYEES AND/OR AGENTS).** Tenant may only use the Telecom

Equipment in connection with Tenant's business. Tenant shall not allow any third party to use such equipment, whether by sublease, license, occupancy agreement or otherwise, except in connection with Permitted Transfers and any other Transfers approved by Landlord. So long as Tenant is the sole occupant of the Building, Landlord covenants and agrees that it shall not undertake, install or consent to or permit to be installed on the roof of the Building any solar, wind or other similar apparatus, billboard, signage or other installation save and except with the consent of Tenant.

26.15 **Landlord's Representations and Warranties**. Landlord warrants and represents to Tenant, to Landlord's knowledge, as of the Lease Date, and except as otherwise provided in the diligence materials delivered by Landlord to Tenant listed in **Exhibit R** hereto (including the Phase I Environmental Site Assessment referenced in Section 25.23 above), in information that is publicly available (a) on the registered title to the Project, (b) relating to the zoning of the Project or (c) relating to the Taxes payable with respect to the Project, as follows:

26.15.1 **Title and Characteristics of Lands**. As of the Lease Date, pursuant to a head lease dated May 28, 2014 by and between Landlord and Innovation Blvd. I, LLC, a Delaware limited liability company (the "**Head Lease**") Landlord is the registered and beneficial owner of the leasehold interest in the Project and has good and marketable title thereto free and clear of all mortgages, liens, charges, security interests, restrictive covenants, conditions, restrictions, easements, rights-of-way, licenses, encroachments, judgments and other encumbrances and adverse rights of third parties, other than this Lease and as otherwise disclosed by the parcel registers as of the date hereof. The Head Lease is in good standing and in full force and effect without any default by either party thereto.

26.15.2 **Conflicts**. The execution and entry into this Lease and the performance by Landlord of its duties and obligations under this Lease are consistent with and not in violation of, and will not create any adverse condition under, any contract, agreement or other instrument to which Landlord is a party, or any judicial order or judgment of any nature by which Landlord is bound.

26.15.3 **Expropriation**. No part of the Project has been taken or expropriated by any Governmental Authority and Landlord has received no notice of, nor is Landlord aware of, any pending, threatened or contemplated action by any Governmental Authority having the power to expropriate, which might result in any part of the Project being taken by expropriation or conveyed in lieu thereof.

26.15.4 **Litigation**. There is no action, suit or proceeding pending or threatened by or against or affecting Landlord or the Project which does or will involve or affect the Project or title thereto.

26.15.5 **Boundaries**. (a) There is no dispute involving or concerning the location of the boundaries of the Project; (b) there are no encroachments on the Project and no portion of the Project is located within any flood-plain area established by the local conservation authority or any other Governmental Authority having jurisdiction; and (c) no portion of the Project is located within a watershed or flood-plain area imposing restrictions upon use of the Project or any part thereof;

26.15.6 **No Violations**. There are no violations of any applicable Laws or any other legal requirements with respect to the Project (inclusive of environmental laws) which have not been cured. Landlord has received no written notice that any Governmental Authority or quasi-Governmental Authority has determined that there are such violations which have not been cured. There are no open building permits with respect to the Project.

26.15.7 **Prior Options**. Except for Tenant under this Lease, no person has any agreement, understanding or commitment, option or right of first refusal, or any right or privilege capable of becoming such for the purchase or lease of any interest in the Project, or any part thereof.

26.15.8 **Hazardous Materials**. Landlord is not aware of any Hazardous Materials on the Land or within the Premises in violation of any applicable environmental Law. Landlord has not given, nor does it have any obligation to give, nor has it received, any notice or claim or communication regarding any present, planned or threatened treatment, storage, disposal, presence, release or spill of any Hazardous Materials

at, on, under or from the Project, including any written notice pursuant to any Laws. Landlord has disclosed the most recent environmental report in its possession in respect of the Project or any part(s) thereof to Tenant.

26.15.9 **Disclosure**. The documents listed in Exhibit R hereto constitute all reports, studies, tests, investigations, warranties and guarantees and related documentation (inclusive of warranty claims) in respect of the Project, the related project and any part(s) thereof in the possession of Landlord.

Landlord and Tenant each specifically acknowledge and agree that all references in this Lease to the phrase “to Landlord’s knowledge” (or other similar phrase) (a) shall mean the actual (not constructive) personal knowledge of Peter Kahn and/or Adam Ballew (“**Landlord’s Personnel**”); (b) shall in no case mean or refer to the actual or constructive knowledge of any other employee, trustee, partner, agent or partner of a partner, officer, director or other representative of Landlord or any investment advisor, attorney, contractor or representative of Landlord (together with Landlord’s Personnel, “**Landlord’s Representatives**”); and (c) shall in no event or circumstance impose upon Landlord or any of Landlord’s Representatives any duty or obligation to verify, inquire or make any independent inquiry or investigation of any such representation, warranty or statement, or to otherwise investigate the facts or circumstances relating or otherwise pertinent thereto. Tenant further acknowledges and agrees that none of Landlord’s Representatives shall be personally liable, or otherwise have any personal liability, under or in connection with this Lease, including without limitation, in connection with any of the representations, warranties or statements made in connection with, or pursuant to, this Lease.

26.16 **Competing Tenants**. If Landlord exercises its right to cancel this Lease as to the portion of the Premises proposed to be sublet or assigned in accordance with Section 10.7 above, and provided no Event of Default then exists, Landlord will not execute any lease for space within the Building with any of the companies listed on Exhibit O attached hereto (“**Primary Competitors**”). Unless Landlord is then negotiating to lease space with an entity proposed by Tenant, Tenant may update the list of Primary Competitors by written notice to Landlord up to one time per calendar year but may not increase the original total number of companies on the list. Notwithstanding the foregoing, no violation of this provision shall occur with respect to a Primary Competitor if Landlord first notifies Tenant in writing of its intention to allow such Primary Competitor and Tenant notifies Landlord, in writing, that it does not object to such Primary Competitor. If Landlord incurs any liability, claim or damage because of this Section (whether under a claim of antitrust, restraint of trade [or other similar claim] or otherwise), Tenant shall indemnify, defend and hold Landlord harmless for all such liabilities, claims or damages, including reasonable attorneys’ fees and expenses. If Tenant assigns this Lease or sublets all or a portion of the Premises to a Primary Competitor, such Primary Competitor shall no longer be a Primary Competitor under this Lease for the balance of the Term and any renewals. The rights granted to Tenant under this Section 26.16 are personal to Ciena Canada, Inc. and may not be assigned to any party other than Permitted Transferees.

LANDLORD AND TENANT EXPRESSLY DISCLAIM ANY IMPLIED WARRANTY THAT THE PREMISES ARE SUITABLE FOR TENANT'S INTENDED COMMERCIAL PURPOSE, AND TENANT'S OBLIGATION TO PAY RENT HEREUNDER IS NOT DEPENDENT UPON THE CONDITION OF THE PREMISES OR THE PERFORMANCE BY LANDLORD OF ITS OBLIGATIONS HEREUNDER, AND, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN, TENANT SHALL CONTINUE TO PAY THE RENT, WITHOUT ABATEMENT, DEMAND, SETOFF OR DEDUCTION, NOTWITHSTANDING ANY BREACH BY LANDLORD OF ITS DUTIES OR OBLIGATIONS HEREUNDER, WHETHER EXPRESS OR IMPLIED. NOTHING IN THIS PARAGRAPH SHALL BE CONSTRUED TO DIMINISH THE OBLIGATIONS OF LANDLORD THAT ARE EXPRESSLY SET FORTH ELSEWHERE IN THIS LEASE.

This Lease is executed as of the Lease Date (as defined in the Basic Lease Information).

LANDLORD : **INNOVATION BLVD II LIMITED** , a Nova Scotia limited company

By: /s/ John S. Grassi
John S. Grassi, President

TENANT : **CIENA CANADA, INC.** , a federal corporation pursuant to the Canada Business Corporations Act

By: /s/ James E. Moylan, Jr.

Name: James E. Moylan, Jr.

Title: Chief Financial Officer

EXHIBIT E

TENANT FINISH-WORK: ALLOWANCE

(Tenant Performs the Work)

1. **Acceptance of Premises**. Except as set forth in this Exhibit and subject to Landlord's express representations and warranties and repair, replacement and maintenance obligations pursuant to this Lease, Tenant accepts the Premises in its present " **AS-IS, WHERE-IS** " condition with any faults that may exist as of the Lease Date. Except for the express representations of Landlord set forth in this Lease and Landlord's repair, replacement and maintenance obligations pursuant to this Lease, Tenant (a). acknowledges that it has had full opportunity to examine the Premises and is fully informed, independently of Landlord or any of its representatives, as to the character, construction and structure of the Premises, (b) acknowledges that neither Landlord nor any of its representatives has made any warranties with respect to the Premises, including any warranty as to the fitness thereof for any purpose, (c) accepts the Premises in its present " **AS-IS, WHERE IS** " condition, and (d) acknowledges and agrees that the Premises are subject to the limitations, encumbrances, and other matters described in the Lease.

2. **Space Plans**.

2.1 **Preparation and Delivery**. On or before April 1, 2015, Tenant shall deliver to Landlord a space plan prepared by BHDP Architecture or another architect reasonably approved by Landlord (the " **Architect** ") depicting improvements to be installed in the Premises (the " **Space Plans** ").

2.2 **Approval Process**. Landlord shall notify Tenant whether it approves of the submitted Space Plans within ten business days after Tenant's submission thereof. If Landlord disapproves of such Space Plans, then Landlord shall notify Tenant thereof specifying in reasonable detail the reasons for such disapproval, in which case Tenant shall, within ten business days after such notice, revise such Space Plans in accordance with Landlord's objections and submit to Landlord for its review and approval. Landlord shall notify Tenant in writing whether it approves of the resubmitted Space Plans within five business days after its receipt thereof. This process shall be repeated until the Space Plans have been finally approved by Landlord and Tenant. If Landlord fails to notify Tenant that it disapproves of the initial Space Plans within ten business days (or, in the case of resubmitted Space Plans, within five business days) after the submission thereof, then Landlord shall be deemed to have approved the Space Plans in question. The provisions of Section 3.3.3 hereinafter shall equally apply in respect of Landlord's review and approval of the Space Plans.

3. **Working Drawings**.

3.1 **Preparation and Delivery**. On or before the 60th day following the date on which the Space Plans are approved (or deemed approved) by Landlord and Tenant, Tenant shall provide to Landlord for its approval final working drawings, prepared by the Architect, of all improvements that Tenant proposes to install in the Premises; such working drawings shall include the partition layout, ceiling plan, electrical outlets and switches, telephone outlets, drawings for any modifications to the mechanical, electrical, life safety and plumbing and any other systems of the Building, submetering and detailed plans and specifications for the construction of the improvements called for under this Exhibit in accordance with all applicable Laws and suitable for permitting and construction.

3.2 **Approval Process**. Landlord shall notify Tenant whether it approves of the submitted working drawings within ten business days after Tenant's submission thereof. If Landlord disapproves of such working drawings, then Landlord shall notify Tenant thereof specifying in reasonable detail its reasonable grounds for such disapproval, in which case Tenant shall, within ten business days after such notice, revise such working drawings to address Landlord's objections and submit the revised working drawings to Landlord for its review and approval, or otherwise respond to Landlord's objections with proposed resolutions thereof, as applicable. Landlord shall notify Tenant in writing whether it approves of the resubmitted working drawings or Tenant's proposed resolution within five business days after its receipt thereof. This process shall be repeated until the working drawings have been finally approved by Tenant and Landlord. If Landlord fails to notify Tenant that it disapproves of the initial working drawings within ten business days (or, in the case of resubmitted working drawings, within five business days) after the submission

thereof, then Landlord shall be deemed to have approved the working drawings in question. To the extent not inconsistent with this Exhibit E, Sections 8.1, 21, 25.6 and 26.12 of this Lease shall govern the approval of the working drawings, the performance of the Work and Landlord's and Tenant's respective rights and obligations regarding the improvements installed pursuant thereto.

3.3 **Landlord's Approval; Performance of Work**

3.3.1 As used herein, "**Working Drawings**" means the final working drawings approved by Landlord and Tenant, as amended from time to time by approved changes thereto, and "**Work**" means all improvements to be constructed in accordance with and as indicated on the Working Drawings, together with any work required by governmental authorities to be made to other areas of the Project as a result of the improvements indicated by the Working Drawings. Landlord's approval of the Working Drawings shall not be a representation or warranty of Landlord that such drawings are adequate for any use or comply with any Law, but shall merely be the consent of Landlord thereto.

3.3.2 After the Working Drawings have been approved and subject to payment by Landlord of the Construction Allowance as and when due by the terms of this Exhibit, Tenant shall cause the Work to be performed in accordance with the Working Drawings.

3.3.3 Landlord's approval of any working drawings shall not be unreasonably withheld, provided that (1) they comply with all Laws, and (2) the improvements depicted thereon do not (A) adversely affect more than to a *de minimis* extent (in the reasonable discretion of Landlord) the Building's Structure or the Building's Systems (including the Project's restrooms), or (B) affect more than to a *de minimis* extent (in the sole but reasonable discretion of Landlord) the exterior appearance of the Project.

3.3.4 LANDLORD MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SPACE PLANS, THE WORKING DRAWINGS OR THE WORK (OR ANY OTHER SERVICES PROVIDED BY THE ARCHITECT, TENANT'S CONTRACTOR OR ANY OF THEIR SUBCONTRACTORS). ALL IMPLIED WARRANTIES BY LANDLORD WITH RESPECT THERETO, INCLUDING BUT NOT LIMITED TO THOSE OF HABITABILITY, MERCHANTABILITY, MARKETABILITY, QUALITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY NEGATED AND WAIVED. WITHOUT LIMITING THE FOREGOING, LANDLORD SHALL NOT BE RESPONSIBLE FOR ANY FAILURE OF THE WORK. LANDLORD WILL NOT BE RESPONSIBLE FOR, OR HAVE CONTROL OR CHARGE OVER, THE ACTS OR OMISSIONS OF THE ARCHITECT OR ITS AGENTS OR EMPLOYEES. TENANT SHALL HAVE NO RECOURSE AGAINST THE LANDLORD WITH RESPECT THERETO.

3.3.5 In connection with Landlord's review of the Spaces Plans and any working drawings, Landlord may engage third parties to review those portions of the Spaces Plans and workings drawings that may affect the Building's Structure or Building's Systems. Any reasonable third party fees which are consistent with prevailing market rates incurred by Landlord in conjunction with its review of the Space Plans and any working drawings, to the extent such third party fees relate to the Building's Structure or the Building's Systems, shall be paid from the Construction Allowance (subject to supporting invoices and related information being first provided to Tenant for its review and confirmation).

3.4 **Phases of Work**. Tenant may construct the Work in phases in accordance with this Exhibit E. As used herein, a "**Phase**" means a portion of the Premises in which initial alterations or improvements are to be made by Tenant, and may include, in addition to such portion of the Premises, other improvements and installations to other portions of the Project. At such time as Tenant begins to make such improvements for a Phase, such improvements shall be made in accordance with the terms, conditions and procedures set forth in this Exhibit E, and for purposes of applying such terms, conditions and procedures to the improvements for such Phase:

3.4.1 all references in this Exhibit E to the "Premises" shall mean the portion of the Premises contained in the applicable Phase; and

3.4.2 all references in this Exhibit E to the “Working Drawings” and “Work” shall mean the final Working Drawings and Work pertaining to the applicable Phase and Landlord acknowledges and agrees that notwithstanding Section 3.1 hereof, should Tenant elect to complete the Work in Phases, Tenant may prepare and submit to Landlord the Working Drawings in corresponding Phases.

4. **Contractors; Performance of Work**. The Work shall be performed only by reputable contractors and subcontractors licensed to the extent required by Law, and the construction manager engaged by Tenant shall be approved in writing by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed (and if Landlord fails to notify Tenant that it disapproves of the construction manager within five business days after written request for such approval is delivered to Landlord, then Landlord shall be deemed to have approved the construction manager). Landlord and Tenant acknowledge and agree that the following construction managers have been pre-approved: Brocolini, Ellis Don and PCL (hereinafter an “**Approved Contractor**”). The Approved Contractor shall be required to procure and maintain insurance satisfying the requirements of Schedule 1 attached hereto. Certificates of such insurance must be received by Landlord before the Work is commenced. The Work shall be performed in a good and workmanlike manner free of defects, shall conform strictly with the Working Drawings, and shall be performed in such a manner not to interfere with the operation of the Project.

5. **Construction Contracts**.

5.1 **Tenant’s Construction Manager**. Tenant shall enter into a construction contract with an Approved Contractor selected by Tenant in a form acceptable to Tenant’s representative for the Work, which shall comply with the provisions of this Section 5 and provide for, among other things, the following terms, or such variations thereof, which are acceptable to Landlord, acting reasonably: (a) a one-year warranty for all defective Work; (b) a requirement that Tenant’s contractor maintain insurance in accordance with Schedule 1 attached hereto and a requirement that any subcontractor engaged by Tenant’s contractor maintains insurance in such amounts or coverage as would be typical for reputable subcontractors in the market in which the Building is located to maintain for the works which they are undertaking therein; (c) a requirement that the contractor perform the Work in substantial accordance with the Space Plans and the Working Drawings (and such plans and drawings are specifically referenced and/or itemized in the contract), subject to change orders entered into in compliance with the terms of this Exhibit, and in a good and workmanlike manner; (d) a requirement that the contractor is responsible for daily cleanup work and final clean up (including removal of debris); and (e) provide for payment and performance bonds (collectively, the “**Approval Criteria**”). Tenant shall submit to Landlord, for Landlord’s review, a copy of the construction contract with the Approved Contractor (which may be redacted to remove any confidential information unrelated to the Approval Criteria). Landlord’s review of the construction contract shall be limited to confirming that the Approval Criteria is satisfied. Landlord shall have three business days to notify Tenant in writing if Landlord determines that the Approval Criteria in the proposed construction contract has been satisfied, and, if not, Landlord shall specify in reasonable detail its reasonable grounds for such determination, in which case Tenant shall use reasonable efforts to revise the proposed construction agreement with respect to the Approval Criteria. If Landlord fails to respond within three business days after the construction contract is delivered to Landlord, then Landlord shall be deemed to have acknowledged that the Approval Criteria has been satisfied.

6. **Change Orders**. Tenant may initiate changes in the Work. Tenant shall notify Landlord in writing of any requested changes in the Work. Landlord shall give its response to the requested change order within two business days (or, if the proposed change order could affect the Building’s Structure or Building’s Systems, within five business days) after submission by Tenant of its written request for such change order, which submission by Tenant shall include revised working drawings to the extent the proposed change order requires any such revised working drawings. If Landlord fails to notify Tenant within such two business day period (or five business day period, as applicable) of Landlord’s objection to the requested change order, Landlord shall be deemed to have approved the change order in question. Tenant shall, upon completion of the Work, furnish Landlord with accurate architectural, mechanical, electrical and plumbing “as built” plans of the Work as constructed in electronic CADD format, which plans shall be incorporated into this Exhibit E by this reference for all purposes. If Tenant requests any changes to the Work described in the Space Plans or the Working Drawings, then such increased costs and any additional design costs incurred in connection therewith as the result of any such change shall be added to the Total Construction Costs.

7. **Definitions**. As used herein “**Substantial Completion**,” “**Substantially Completed**,” and any derivations thereof mean the Work in the Premises is substantially performed (as that term is defined in the *Construction Lien Act* (Ontario)) as reasonably determined by the Architect, in accordance with the Working Drawings. Substantial Completion shall have occurred even though minor details of construction, decoration, landscaping and mechanical adjustments remain to be completed.

8. **Walk-Through; Deficiency List**. When Tenant considers the Work in the Premises to be Substantially Completed, Tenant will notify Landlord and within ten business days thereafter, Landlord’s representative and Tenant’s representative shall conduct a walk-through of the Premises and identify any necessary touch-up work, repairs and minor completion items that are necessary for final completion of the Work. Neither Landlord’s representative nor Tenant’s representative shall unreasonably withhold his or her agreement on deficiency list items. Tenant shall use reasonable efforts to cause the contractor performing the Work to complete all deficiency list items within 60 days after agreement thereon.

9. **Excess Costs**. Tenant shall pay the entire amount by which the Total Construction Costs (hereinafter defined) exceed the Construction Allowance (hereinafter defined) as and when due following Tenant’s receipt and application of the Construction Allowance in accordance with this Exhibit (such excess amount being referred to herein as the “**Excess Amount**”). Upon approval of the Working Drawings and selection of a construction manager, Tenant shall promptly execute a work order agreement which identifies such drawings and itemizes the estimated Total Construction Costs and sets forth the Construction Allowance. As used herein, “**Total Construction Costs**” means the entire cost of performing the Work (including design of and space planning for the Work) and preparation of the Working Drawings and the final “as-built” plan of the Work, costs of construction labor and materials, Tenant’s project management fees, additional janitorial services, related taxes and insurance costs, licenses, permits, certifications, surveys and other approvals required by Law for the undertaking of the Work, and, if applicable, the third party fees referenced in Section 3.3.5 of this Exhibit.

10. **Construction Allowance**.

10.1.1 Landlord shall provide to Tenant a construction allowance of \$25.00 per rentable square foot in the Premises (the “**Construction Allowance**”) to be applied toward the Total Construction Costs, as adjusted for any changes to the Work as hereinafter provided. Applicable Sales Taxes on any payment or calculation of the Construction Allowance shall be paid by Landlord to Tenant at the same time as and in addition to the Construction Allowance. No less than \$18.00 per rentable square foot of the Construction Allowance, plus applicable Sales Taxes (the “**Minimum Construction Allowance**”) shall be applied toward the hard and soft construction costs with respect to each floor of the Premises; in no event, however, shall the portion of the Construction Allowance applied to so-called “soft” construction costs (e.g., architectural design work) exceed in the aggregate \$3.00 per rentable square foot in the Premises, plus applicable Sales Taxes.

10.1.2 Landlord shall pay to Tenant, or, as Landlord may direct, the Approved Contractor, the portion of the Construction Allowance equal to \$22.50 per rentable square foot in the Premises plus applicable Sales Taxes (the remaining balance of the Construction Allowance being hereinafter referred to as the “**Retainage**”) in the manner hereinafter provided, to be applied solely toward the Total Construction Costs, in multiple disbursements on a progress-draw basis (but not more than once in any calendar month) following the receipt by Landlord from Tenant of the following items: (a) a request for payment, (b) copies of all invoices in respect of such payment amount, (c) evidence reasonably satisfactory to Landlord that the requirements regarding the Minimum Construction Allowance in Section 10.1.1 above have been satisfied, and (d) the Architect’s certification that the Work for which reimbursement has been requested has been performed (but not a proof of payment of such costs), on the customary form, (these deliverables hereinafter collectively referred to as an “**Application For Payment**”). Landlord shall pay the requested portion of the Construction Allowance set out in each Application for Payment to Tenant or as it may direct within 20 days following Tenant’s submission thereof.

10.1.3 The Retainage shall be paid by Landlord to Tenant on the later to occur of (a) delivery to Landlord of a confirmation from the Architect that the Work has been completed; (b) the expiry

of the periods pursuant to the *Construction Lien Act* (Ontario) within which a person who supplied services or materials in connection with the performance of the Work may file a claim for lien for work or service performed or material supplied, provided no claim for lien for work or service performed or material supplied has been filed, or if such liens have been filed, then only upon such liens being discharged or vacated; (c) the issuance of the certificate of occupancy for the Premises; (d) Tenant's occupancy of the Premises; (e) delivery of the "as-built" plans for the Work as constructed (and as set forth above) to Landlord's construction representative (set forth below); and (f) execution and delivery of an estoppel certificate substantially in the form attached as Exhibit G to this Lease confirming such factual matters as Landlord or Landlord's Mortgagee may reasonably request.

10.1.4 Tenant and Landlord, as the case may be, shall withhold and retain from any payment of the Construction Allowance made by either of them to a contractor, the applicable holdback amount on such payment stipulated by the *Construction Lien Act* (Ontario), which amount shall be retained and released to the entitled party in accordance with the terms of said Act.

10.1.5 Notwithstanding anything to the contrary contained in this Exhibit, Landlord shall not be obligated to make any disbursement of the Construction Allowance during the pendency of any of the following: (A) Landlord has received written notice of any valid unpaid claims relating to any portion of the Work or materials supplied or provided in connection therewith, other than claims which will be paid in full from such disbursement or which Tenant is disputing in good faith; (B) there is an unbonded construction lien that is registered and outstanding against title to the Project or the Premises or Tenant's interest therein by reason of work done, or claimed to have been done, or materials supplied or specifically fabricated, claimed to have been supplied or specifically fabricated, to or for Tenant or the Premises on behalf of Tenant, or (C) an Event of Default by Tenant exists.

10.1.6 The Construction Allowance must be used (that is, the Work must be Substantially Completed and the Construction Allowance disbursed, subject to holdbacks under the *Construction Lien Act* (Ontario)), within 18 months following the Second Must-Take Commencement Date (save and except where such delay is due to a delay of the type described in Section 25.3 of the Lease or any act or omission of Landlord, Landlord Parties and its or their representatives, employees and agents, in each case as extended to the extent Tenant has notified Landlord thereof in writing within ten business days following the occurrence of such alleged delay) or shall be deemed to be forfeited with no further obligation by Landlord with respect thereto, time being of the essence with respect thereto.

10.1.7 If Landlord wrongfully fails to make any payment, as and when due, of any portion of the Construction Allowance, which payment is required to be made by Landlord in accordance with the terms of this Exhibit E and which is not disputed by Landlord in good faith, which Construction Allowance remains unpaid after delivery of written notice to Landlord of such failure (the "**Failure Notice**") and after the expiration of 10 days following Landlord's receipt of such Failure Notice from Tenant, during which 10-day period Landlord fails to pay such Construction Allowance to Tenant or its designee in accordance with the terms of this Lease, provided no Event of Default by Tenant then exists, Tenant shall have the right to set off against Basic Rent due under this Lease such amount not paid by Landlord; provided, however, that the amount offset against Basic Rent in any single month shall not exceed 50% of the Basic Rent payable for such month. The Failure Notice shall include a statement that Tenant intends to exercise this right to set off and shall identify in reasonable detail the basis for the offset and the date on which such amounts should have been paid to Tenant. Following the complete payment of the Construction Allowance (including the release of all holdback amounts), Tenant will confirm in writing (if requested in writing by Landlord) that Tenant's right under this Section has terminated.

11. **Right of Inspection.** Landlord or its Affiliate or agent may inspect the Work from time to time upon no less than 24 hours prior notice to Tenant's representative noted below (which may be email notice) (except in the case of emergency in which no notice is required) and Tenant shall be provided the opportunity to have Tenant's representatives and/or its designees accompany any such inspection.

12. **Project Management**. Tenant shall engage CBRE Limited, or another third party construction or project manager reasonably acceptable to Landlord, to serve as project manager for the Work. Except for the third party fees payable as provided in Section 3.3.5 above, Landlord shall not charge any construction management, administrative, supervisory, overhead or other similar fee for inspecting, overseeing or supervising the Work.

13. **Construction Representatives**. Landlord's and Tenant's representatives for coordination of construction and approval of change orders will be as follows, provided that either party may change its representative upon written notice to the other:

Landlord's Representative:

Greg Ashley
c/o MHPM Project Managers Inc.
1900 City Park Drive, Suite 402
Ottawa, Ontario K1J 1A3
Telephone: 613.216.4345
Facsimile: 613.216.4348
E-mail: greg.ashley@mhpm.com

Tenant's Representative:

Michael Renaud, Director, Special Projects
CBRE Limited | Project Management
333 Preston Street, 7th Floor, Preston Square Tower 1
Ottawa, ON K1S 5N4
Telephone: 613.691.2129
Cell: 613.324.1864
Facsimile: 613.782.2296
E-mail: michael.renaud@cbre.com

EXHIBIT H

PARKING

Tenant and Tenant Parties shall throughout the Term (including any extensions or renewals thereof) be entitled to the use of all of the parking spaces in the parking facilities associated with the Building as shown on Schedule 1 attached hereto (the “**Parking Area**”), subject to the terms of this Exhibit H, the Lease and such terms, conditions and regulations as are from time to time applicable to patrons of the Parking Area, at no additional charge to Tenant during the initial Term. As many spaces as may be required for the entirety of the Parking Area to comply with Laws (e.g., handicapped spaces and carpool spaces) shall be deducted from Tenant’s allocation of parking spaces (it being acknowledged and agreed that no such deductions or allocations of any parking spaces within the Parking Areas shall be made for the purposes of the compliance with Laws of any other building or development). Tenant shall not permit any Tenant Party to park in any of the parking areas serving the related complex other than the Parking Area. Subject to the terms and conditions of this Lease, Tenant shall have access to the Parking Area 24 hours per day, seven days per week (inclusive of holidays).

For so long as Tenant leases all of the Building and for no additional charge, fee or expense beyond the Rent set out in the Lease, parking in the Parking Area will be exclusive to Tenant and Tenant Parties (other than occasional use by Landlord’s Project employees, vendors and contractors employed by Landlord during the period of providing their services to the Premises) and Tenant may designate reserved parking spaces in the Parking Area in Tenant’s sole discretion.

Tenant shall at all times comply with all Laws respecting the use of the Parking Area. Landlord reserves the right to adopt, modify, and enforce reasonable rules and regulations governing the use of the Parking Area from time to time including designation of assigned parking spaces, requiring use of any key-card, sticker, or other identification systems and charging a fee for replacement of any such key-card sticker or other item used in connection with any such system. Landlord may refuse to permit any person who violates such rules and regulations to park in the Parking Area, and any violation of the rules and regulations shall subject the car to removal from the Parking Area.

Unless specified to the contrary above, the parking spaces provided hereunder shall be provided on an unreserved, “first-come, first served” basis. Tenant acknowledges that Landlord has arranged or may arrange for the Parking Area to be operated by an independent contractor, not affiliated with Landlord.

All motor vehicles (including all contents thereof) shall be parked in the Parking Area at the sole risk of Tenant and each other Tenant Party, it being expressly agreed and understood Landlord has no duty to insure any of said motor vehicles (including the contents thereof), and Landlord is not responsible for the protection and security of such vehicles. Landlord shall not be responsible for enforcing Tenant’s parking rights against any third parties. **NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THIS LEASE, LANDLORD SHALL HAVE NO LIABILITY WHATSOEVER FOR ANY PROPERTY DAMAGE OR LOSS WHICH MIGHT OCCUR ON THE PARKING AREA OR AS A RESULT OF OR IN CONNECTION WITH THE PARKING OF MOTOR VEHICLES IN ANY OF THE PARKING SPACES, EXCEPT TO THE EXTENT SUCH LOSS IS DETERMINED BY A COURT OF COMPETENT JURISDICTION TO HAVE BEEN CAUSED BY LANDLORD’S SOLE OR GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.**

Landlord will not voluntarily reduce the Parking Area without the prior written consent of Tenant.

EXHIBIT I

EXTENSION OPTION

Tenant may extend the Term as to the entire Building for one additional period of 10 years, by delivering written notice of the exercise thereof, including an acknowledgment by the Guarantor that the obligations of Tenant during the extended Term shall be included as part of the obligations guaranteed by Guarantor under the Guarantee, to Landlord not earlier than 24 months nor later than 21 months before the expiration of the Term. The Basic Rent payable for each month during such extended Term shall be the then current prevailing net effective rental rate at the commencement date of the extended Term, for extensions of space in buildings (including the Building and related complex) of equivalent quality, size, utility and location within the former City of Kanata submarket, with the length of the extended Term and the credit standing of Tenant and the guarantee of the Guarantor to be taken into account, together with any tenant inducements payable or contributed by landlords of such premises/tenancies (such as cash allowances, free rent, landlord's works) so as to achieve current net effective market rental rates with periodic increases in Basic Rent (the "**Prevailing Rental Rate**") multiplied by 95%. In no event, however, shall the Basic Rent in the extended Term be less than the Basic Rent rate per rentable square foot in effect during the last calendar month in the immediately preceding Term (the "**Minimum Renewal Rate**"). Within 30 days after receipt of Tenant's notice to extend, Landlord shall deliver to Tenant written notice of the Prevailing Rental Rate and all other applicable terms and shall advise Tenant of the required adjustment to Basic Rent, if any, and the other terms and conditions offered. Tenant shall, within 15 business days after receipt of Landlord's notice and all supporting documentation and information relating thereto, notify Landlord in writing whether Tenant accepts or rejects Landlord's determination of the Prevailing Rental Rate. If Tenant timely notifies Landlord (within 15 business days of receipt of Landlord's written notice of the Prevailing Rental Rate together with all supporting information relating thereto as aforesaid) that Tenant accepts Landlord's determination of the Prevailing Rental Rate, then, on or before the commencement date of the extended Term, Landlord and Tenant shall execute an amendment to this Lease extending the Term on the same terms and conditions provided in this Lease, except as follows:

- (a) Basic Rent shall be adjusted to the greater of (i) the Minimum Renewal Rate and (ii) 95% of the Prevailing Rental Rate, in each case with periodic increases in Basic Rent as are customary in the former City of Kanata submarket;
- (b) Tenant shall have no further option to extend the Term unless expressly granted by Landlord in writing; and
- (c) Landlord shall lease to Tenant the Premises in their then-current condition, and Landlord shall not provide to Tenant any allowances (e.g., moving allowance, construction allowance, and the like) or other tenant inducements; provided, if any such allowances or other tenant inducements have been taken into account in determining the Prevailing Rental Rate, then Landlord shall provide such allowances to Tenant.

If Tenant rejects Landlord's determination of the Prevailing Rental Rate and timely notifies Landlord thereof within 15 business days of Landlord's written notice of the Prevailing Rental Rate together with all supporting information relating thereto as aforesaid, Tenant may, in its notice to Landlord, require that the determination of the Prevailing Rental Rate be made by brokers (and if Tenant makes such election, Tenant shall be deemed to have irrevocably extended the Term and Landlord shall be bound by same, subject only to the determination of the Prevailing Rental Rate as provided below). In such event, within ten business days thereafter, each party shall select a qualified commercial real estate broker with at least ten years' experience in leasing property and buildings of equivalent quality, size, utility and location in the city or submarket in which the Premises are located. The two brokers shall give their opinion of prevailing rental rates within 20 days after their retention. In the event the opinions of the two brokers differ and, after good faith efforts over the succeeding 20-day period, they cannot mutually agree, the brokers shall immediately and jointly appoint a third broker with the qualifications specified above. This third broker shall within ten business days of his or her appointment choose either the determination of Landlord's broker or Tenant's broker as the Prevailing Rental Rate and such choice of this third broker shall be final and binding on Landlord and Tenant. Each party shall pay its own costs for its real estate broker. Following the determination of the Prevailing Rental Rate by the brokers, the parties shall equally share the costs of any third broker. The parties shall immediately execute an amendment as

set forth in clauses (a), (b) and (c) above. If Tenant fails to notify Landlord in writing that Tenant accepts or rejects Landlord's determination of the Prevailing Rental Rate within the aforesaid time period, time being of the essence with respect thereto, Tenant's rights under this Exhibit shall terminate and Tenant shall have no right to extend the Term.

Tenant's rights under this Exhibit shall terminate, at Landlord's option, if (i) an Event of Default exists as of the date of Tenant's exercise of its rights under this Exhibit or as of the commencement date of the extended Term, (ii) this Lease or Tenant's right to possession of any of the Premises is lawfully terminated, (iii) Tenant assigns its interest in this Lease or sublets 50% or more of the Premises other than to a Permitted Transferee, (iv) Landlord determines, in its sole but commercially reasonable discretion, that Tenant or its Permitted Transferee and Guarantor collectively do not have reasonably adequate creditworthiness based on similar sized entities leasing similar size premises in the submarket in which the Building is located as of the date of Tenant's exercise of its rights under this Exhibit or as of the commencement date of the applicable extended Term, or (v) Tenant fails to timely exercise its option under this Exhibit, time being of the essence with respect to Tenant's exercise thereof.

As a condition to the effectiveness of Tenant's exercise of its rights under this Exhibit, the Guarantee executed by Guarantor for the benefit of Landlord shall be amended simultaneously with the execution of the lease extension amendment to confirm that all of the obligations of Tenant during the extended Term will be guaranteed by Guarantor.

EXHIBIT J

RIGHT OF FIRST OFFER (4000 INNOVATION)

Tenant's rights under this Exhibit shall only apply if an Affiliate of Landlord owns or has a 100% leasehold interest in the building located at 4000 Innovation Drive, Ottawa, Ontario K2K 2X1.

Subject to existing renewal or expansion options or other preferential rights of BlackBerry Limited, Landlord shall, prior to offering any of the space in the building located at 4000 Innovation Drive, Ottawa, Ontario K2K 2X1 (the "**Offer Space**") to any party (other than the then-current tenant or occupant therein), first offer to lease to Tenant the Offer Space in an "**AS IS**" condition in full floor increments; such offer shall 13.1.1 be in writing, 13.1.2 specify the part of the Offer Space being offered to Tenant hereunder (the "**Designated Offer Space**"), 13.1.3 specify the rent to be paid for the Designated Offer Space, which basic rent shall be 100% of the Prevailing Rental Rate (as defined in Exhibit I hereto) and 13.1.4 contain the basic terms and conditions of the Third Party Offer (the "**Offer Notice**"). The Offer Notice shall be substantially similar to the Offer Notice attached to this Exhibit. Tenant shall notify Landlord in writing whether Tenant elects to lease the entire Designated Offer Space on the terms set forth in the Offer Notice, within ten (10) business days after Landlord delivers to Tenant the Offer Notice. If Tenant elects to lease the Designated Offer Space within said 10 business day period, then Tenant and Landlord shall endeavor to negotiate, settle and execute a new lease in respect of the Designated Offer Space within 30 days following Landlord's delivery thereof, substantially in the form of this Lease, effective as of the date the Designated Offer Space is to be leased by Tenant, on the terms set forth in the Offer Notice and, to the extent not inconsistent with the Offer Notice terms, the terms of this Lease; however, Tenant shall accept the Designated Offer Space in an "**AS IS**" condition and Landlord shall not provide to Tenant any allowances (e.g., moving allowance, construction allowance, and the like) or other tenant inducements except as specifically provided in the Offer Notice. Notwithstanding the foregoing, if prior to Landlord's delivery to Tenant of the Offer Notice, Landlord has received a bona fide offer from a third party (a "**Third Party Offer**") to lease all or part of the Designated Offer Space, and Landlord is willing to accept the terms of such Third Party Offer, and such Third Party Offer includes space in excess of the Designated Offer Space, Tenant must exercise its rights hereunder, if at all, as to all of the space contained in the Third Party Offer (which option must be exercised by Tenant within 10 business days after Landlord delivers the Third Party Offer and all other information related thereto).

If Tenant fails or is unable to exercise its right hereunder with respect to the Designated Offer Space within the aforesaid 10 business day period pursuant to an Offer Notice or Third Party Offer, as the case may be, then such right shall lapse in this instance (it being acknowledged that Tenant's rights under this Exhibit J are, subject to the terms and provisions of the following sentence, continuing rights for the duration of the Term as may be extended or renewed), time being of the essence with respect to the exercise thereof, and Landlord may lease all or a portion of the Designated Offer Space to third parties pursuant to a Third Party Offer or if there is no Third Party Offer, then on such terms as Landlord may elect. Landlord shall not be obligated to re-offer the Designated Offer Space to Tenant unless Tenant actually rejects (as opposed to Tenant being deemed to have rejected) Landlord's Offer Notice or a Third Party Offer and 1. thereafter Landlord fails to enter into a Lease Agreement with respect to the Designated Offer Space within 180 days after the date of the Offer Notice or Third Party Offer as the case may be or 2. Landlord is willing to lease the Designated Offer Space to a third party on substantially more favorable terms than the terms contained in the Offer Notice or Third Party Offer rejected by Tenant (taking into account all of the terms of the Offer Notice, the Third Party Offer and the terms of the other lease offered), which for purposes hereof shall be defined as a reduction in the overall net effective rent per rentable square foot, taking into account all of the terms of the Offer Notice or the Third Party Offer, as the case may be, and the terms of the other lease offered, of ten percent (10%) or more of that set forth in the original Offer Notice then Tenant's rights under this Exhibit regarding such space shall be subordinate to any expansion, right of first refusal, or other preferential right to lease granted to the party making the Third Party Offer or Third Party Offer, as the case may be. Unless otherwise agreed in writing by Landlord and Tenant's real estate broker, in no event shall Landlord be obligated to pay a commission with respect to any space leased by Tenant under this Exhibit, and Tenant and Landlord shall each indemnify the other against all costs, expenses, reasonable attorneys' fees, and other liability for commissions or other compensation claimed by any broker or agent claiming the same by, through or under the indemnifying party.

Tenant's rights under this Exhibit shall terminate, at Landlord's option, if (i) an Event of Default exists as of the date of Tenant's exercise of its rights under this Exhibit or as of the effective date of the addition of the Designated Offer Space to the Premises, (ii) this Lease or Tenant's right to possession of any of the Premises is terminated, (iii) Tenant assigns its interest in this Lease or sublets 20% or more of the Premises other than to a Permitted Transferee, (iv) Tenant or its Permitted Transferee ceases to occupy at least 80% of the rentable square feet then existing in the Premises, (v) Landlord determines, in its sole but commercially reasonable discretion, that Tenant, its Permitted Transferee, or Guarantor does not have reasonably adequate creditworthiness based on similar sized entities leasing similar size premises in the submarket in which the Building is located as of the date of Tenant's exercise of its rights under this Exhibit or as of the effective date that the Designated Offer Space is to be leased by Tenant, (vi) Tenant fails to timely exercise its option under this Exhibit, time being of the essence with respect to Tenant's exercise thereof, (vii) Tenant fails to execute the new lease within 30 days following Landlord's delivery thereof, time being of the essence with respect thereto, (viii) Guarantor fails to execute the new guarantee contemporaneously with Tenant's execution of the new lease referenced in clause (g) above, time being of the essence with respect thereto, or (ix) less than one full calendar year remains in the initial Term of this Lease and Tenant has not previously exercised its extension or renewal rights, if any.

As a condition to the effectiveness of Tenant's exercise of its rights under this Exhibit, Guarantor shall execute a new guarantee contemporaneously with Tenant's execution of the new lease, substantially in the form of the Guarantee, guaranteeing the obligations of Tenant under the new lease.

As used in this Exhibit, "Landlord" shall refer to Landlord and any Affiliate of Landlord that owns the building in the related complex in which the Offer Space is located. Landlord shall cause Landlord's applicable Affiliate to execute and deliver to Tenant an agreement agreeing to be bound by the terms of this Exhibit J and Landlord shall deliver same to Tenant contemporaneously with Tenant's execution hereof or otherwise in the future should any other Landlord's Affiliate have an ownership or leasehold interest in 4000 Innovation Drive, Ottawa, Ontario.

EXHIBIT K

GUARANTEE

As a material inducement to Landlord to enter into the Lease Agreement, dated October 23, 2014 (the "Lease"), between **CIENA CANADA, INC.**, a federal corporation pursuant to the Canada Business Corporations Act, as original tenant ("Original Tenant"), and **INNOVATION BLVD II LIMITED**, a Nova Scotia limited company, as Landlord, **CIENA CORPORATION**, a Delaware corporation ("Guarantor"), hereby unconditionally and irrevocably guarantees the complete and timely performance of each obligation of Tenant (and any successor or assignee) under the Lease, any extensions or renewals of the Lease and amendments to the Lease, and Tenant, its Affiliates, and their respective successors or assignees (collectively, "Tenant") relating to space in the Project. This Guarantee is an absolute, primary, and continuing, guarantee of payment and performance (not collection) and is independent of Tenant's obligations under the Lease. Guarantor (and if this Guarantee is signed by more than one person or entity, each Guarantor hereunder) shall be primarily liable, jointly and severally, with Tenant and any other guarantor of Tenant's obligations. Guarantor waives any right to require Landlord to (a) join Tenant with Guarantor in any suit arising under this Guarantee, (b) proceed against or exhaust any security given to secure Tenant's obligations under the Lease, or (c) pursue or exhaust any other remedy in Landlord's power.

Until all of Tenant's obligations to Landlord have been discharged in full, Guarantor shall have no right of subrogation against Tenant. Landlord may, without notice or demand and without affecting Guarantor's liability hereunder, from time to time, compromise, extend, renew or otherwise modify any or all of the terms of the Lease by amendment, novation or otherwise (including a new lease, to the extent a court of competent jurisdiction determines any of the foregoing constitutes a new lease), or fail to perfect, or fail to continue the perfection of, any security interests granted under the Lease. Without limiting the generality of the foregoing, if Tenant elects to increase the size of the leased premises, extend or renew the lease term, or otherwise expand Tenant's obligations under the Lease, Tenant's execution of such lease documentation shall constitute Guarantor's consent thereto (and such increased obligations of Tenant under the Lease shall constitute a guaranteed obligation hereunder); Guarantor hereby waives any and all rights to consent thereto. Guarantor waives any right to participate in any security now or hereafter held by Landlord. Guarantor hereby waives all presentments, demands for performance, notices of nonperformance, protests, notices of protest, dishonor and notices of acceptance of this Guarantee, and waives all notices of existence, creation or incurring of new or additional obligations from Tenant to Landlord. Guarantor further waives all defenses afforded guarantors or based on suretyship or impairment of collateral under applicable Law, other than payment and performance in full of Tenant's obligations under the Lease.

The liability of Guarantor under this Guarantee will not be affected by (x) the release or discharge of Tenant from, or impairment, limitation or modification of, Tenant's obligations under the Lease in any bankruptcy, receivership, or other debtor relief proceeding, whether state or federal and whether voluntary or involuntary; (xi) the rejection or disaffirmance of the Lease in any such proceeding; (xii) the cessation from any cause whatsoever of the liability of Tenant under the Lease; (xiii) any extensions of time, indulgences or modifications which Landlord may extend to or make with Tenant in respect of the Lease; (xiv) Landlord taking any security for payment or performance of any of Tenant's obligations pursuant to the Lease or Landlord releasing any security or partial security; (xv) any amendment, supplement, restatement, extension, amendment or replacement whatsoever to or of the Lease and any other dealings of any nature whatsoever between Landlord and Tenant (with or without notice to Guarantor and whether or not Guarantor is a party thereto or has approved same) whereby the respective obligations and rights of either or both of Landlord and Tenant are amended; (xvi) any waiver by, consent of, extension by, indulgence by, or failure of, Landlord to enforce any of the terms, covenants, conditions and provisions of the Lease; (xvii) any delay or forbearance by Landlord in enforcing Tenant's obligations pursuant to the Lease, or any of them; (xviii) any sale, assignment or other transfer by Landlord of the Premises, the Lease, and/or this Guarantee, or any interest therein, whether before or after any default under the Lease or this Guarantee; (xix) any incapacity, disability, or lack of (or limitation on the) power of Tenant or of or on the directors or officers of Tenant; (xx) any assignment of the Lease or any sublease of the Premises, or by any consent which Landlord may give (or any other action Landlord may take) with respect to any assignments or subleases Tenant may effect; (xxi) any default by Tenant under the Lease, any invalidity or unenforceability of the Lease, any limitation on the liability of Tenant, or on the method or terms of payment, under the Lease, or any irregularity or other defect in the Lease; (xxii) any failure by Landlord to give notice to Guarantor at any time or times of any

default of any kind under the Lease (including an Event of Default); (xxiii) any exercise or non-exercise of any right, remedy, power or privilege in respect of the Lease; (xxiv) any change in the name, objects, constitution, capacity, capital stock or constituting documents or by-laws of Tenant; (xxv) Tenant being amalgamated or merged with another entity (in which case this Guarantee shall apply to the obligations of the resulting entity or entities and the term "Tenant" shall include such resulting entity or entities); (xxvi) any sale, transfer or other disposition of any shares of Tenant; (xxvii) the recovery of any judgment against Tenant, any voluntary or involuntary liquidation, dissolution, winding up, merger or amalgamation of Tenant, any sale or other disposition of all or substantially all of the assets of Tenant, or any judicial or extra judicial receivership, insolvency, bankruptcy, assignment for the benefit of creditors, proposal made to creditors, reorganization, moratorium, arrangement, composition with creditors or other proceedings affecting Tenant or Guarantor; (xxviii) any repudiation or termination of the Lease, or of the interests and liabilities thereunder of Tenant, by any trustee in bankruptcy or other any person or entity acting in the insolvency or bankruptcy of Tenant; (xxix) any act or omission on the part of Landlord or any other person or entity that would prevent subrogation operating in favour of Guarantor; (xxx) any present or future agreement by Landlord to limit its recourse against Tenant or others; (xxxi) the Lease becoming void, voidable, ultra vires, invalid, ineffective or otherwise unenforceable by Landlord in accordance with their terms, or released or discharged by operation of law; (xxxii) any default by Landlord under the Lease or any act, omission, default or neglect of Landlord or any other person or entity whereby or pursuant to which Tenant has its obligations under the Lease discharged, mitigated, impaired or affected in any way whatsoever (other than any termination of Tenant's occupancy of all or any part(s) of the Premises determined to be unlawful by a court of competent jurisdiction in a final, non-appealable judgment); (xxxiii) the expiration of the Term or termination of the Lease; and (xxxiv) any other act, or failure to act, in accordance with Law by Landlord or any Landlord Party which would release, discharge or affect the obligations of Guarantor if it were a mere surety, it being agreed that the liability of Guarantor to Landlord under this Guarantee shall not be discharged except by performance of all of Guarantor's obligations hereunder. To the extent that Tenant has properly exercised a remedy of self-help or set-off in accordance with the terms and provisions of the Lease, Landlord shall be prohibited from making a claim under this Guaranty for such properly offset amount.

Subject to Guarantor's right to effectuate a Permitted Guarantor Change as provided below, Guarantor shall not, without the prior written consent of Landlord, (a) assign or transfer this Guarantee or any estate or interest herein, whether directly or by operation of law, (b) permit any other entity to become Guarantor hereunder by merger, consolidation, amalgamation or other reorganization of Guarantor, or (c) if Guarantor is an entity other than a corporation whose stock is publicly traded, permit the transfer of an ownership interest in Guarantor so as to result in a change in the current direct or indirect control of Guarantor (each, a "**Guarantor Change**"). If Guarantor violates the foregoing restrictions or otherwise defaults under this Guarantee, Landlord shall have all available remedies at law and in equity against Guarantor and Tenant. Without limiting the generality of the foregoing, Landlord may (1) declare an immediate Event of Default under the Lease, (2) require Guarantor and/or Tenant (at Landlord's election) to deliver to Landlord additional security for the obligations of Tenant and Guarantor under the Lease and the Guarantee, respectively, which additional security may be in the form of an irrevocable letter of credit in form and substance satisfactory to Landlord, and in an amount to be determined by Landlord, acting reasonably (it being acknowledged that it shall be reasonable for Landlord to request additional security in the amount of the remaining gross Rent payable by Tenant), and (3) in the event of a Guarantor Change which is not a Permitted Guarantor Change, increase the amount of Basic Rent payable by Tenant under the Lease by 150% of the Basic Rent otherwise payable under the Lease as damages (and not as a penalty) until the default is cured to compensate Landlord, for among other things, the reasonable estimate in the diminution in the fair market value of the Project. Landlord and Tenant agree that Landlord's damages resulting from a prohibited Guarantor Change under this Guarantee are difficult, if not impossible, to determine and the Basic Rent increase as provided above is a fair estimate of those damages which has been agreed to in an effort to cause the amount of such damages to be certain. Any and all remedies set forth in this Guarantee: (A) shall be in addition to any and all other remedies Landlord may have at law or in equity, (B) shall be cumulative, and (C) may be pursued successively or concurrently as Landlord may elect. The exercise of any remedy by Landlord shall not be deemed an election of remedies or preclude Landlord from exercising any other remedies in the future. However, and for certainty, Guarantor may permit any other entity to become Guarantor hereunder and/or permit the transfer of an ownership interest in Guarantor (each a "**Permitted Guarantor Change**") without the written consent of Landlord, provided the new Guarantor is:

(1) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity in which or with which Guarantor, or its corporate successors or assigns, is merged, amalgamated, reorganized or consolidated, in accordance with applicable statutory provisions governing merger, amalgamation, reorganization and consolidation of business entities, as applicable, so long as (A) Guarantor's obligations hereunder are assumed by the new Guarantor; (B) the surviving or created entity has at the time immediately following completion of the subject transaction (based on pro forma financial information available immediately before the applicable transaction and calculated as if the subject transactions were completed) a Tangible Net Worth equal to or greater than the average Tangible Net Worth of Guarantor for the preceding 12 fiscal quarters immediately prior to the Permitted Guarantor Change; and (C) the surviving or created entity has a Corporate Debt Rating (which may be the anticipated Corporate Debt Rating issued by S&P or Moody's before the applicable transaction as if the subject transactions were completed) equal to or greater than the Corporate Debt Rating of Guarantor immediately prior to the Permitted Guarantor Change ; or

(2) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity acquiring all or substantially all of Guarantor's assets, so long as (A) Guarantor's obligations hereunder are assumed by the acquiring entity or the entity surviving such merger or created by such consolidation, as applicable; and (B) after such acquisition such entity has a Tangible Net Worth (based on pro forma financial information available immediately before the applicable transaction and calculated as if the subject transactions were completed) equal to or greater than the average Tangible Net Worth of Guarantor for the preceding 12 fiscal quarters immediately prior to the Permitted Guarantor Change; and (C) after such acquisition such entity has a Corporate Debt Rating (which may be the anticipated Corporate Debt Rating issued by S&P or Moody's before the applicable transaction as if the subject transactions were completed) equal to or greater than the Corporate Debt Rating of Guarantor immediately prior to the Permitted Guarantor Change.

Guarantor shall promptly notify Landlord of any such Permitted Guarantor Change. Guarantor shall remain liable for the performance of all of the obligations of Guarantor hereunder, or if Guarantor no longer exists because of a merger, consolidation, or acquisition, the surviving or acquiring entity shall expressly assume in writing the obligations of Guarantor hereunder. No later than 90 days after the effective date of any Permitted Guarantor Change, Guarantor agrees to furnish Landlord with (i) copies of the instrument effecting any of the foregoing Permitted Guarantor Change, and (ii) documentation establishing Guarantor's satisfaction of the requirements set forth above applicable to any such Permitted Guarantor Change. If requested by Landlord following a Permitted Guarantor Change, Guarantor shall ratify and confirm in writing to Landlord the Guarantee executed by Guarantor for the benefit of Landlord.

Guarantor represents and warrants, as a material inducement to Landlord to enter into the Lease, that (a) this Guarantee and each instrument securing this Guarantee have been duly executed and delivered and constitute legally enforceable obligations of Guarantor; (b) there is no action, suit or proceeding pending or, to Guarantor's knowledge, threatened against or affecting Guarantor, at law or in equity, or before or by any governmental authority, which might result in any materially adverse change in Guarantor's business or financial condition; (c) execution of this Guarantee will not render Guarantor insolvent; and (d) Guarantor expects to receive substantial benefits from Tenant's financial success.

Guarantor shall pay to Landlord all costs incurred by Landlord in enforcing this Guarantee (including, without limitation, reasonable attorneys' fees and expenses). The obligations of Tenant under the Lease to execute and deliver estoppel and financial statements, as therein provided, shall be deemed to also require the Guarantor hereunder to do so and provide the same relative to Guarantor following written request by Landlord in accordance with the terms of the Lease. If Guarantor is an entity that is domiciled in the United States of America or Canada, and whose securities are funded through a public securities exchange subject to regulation by the United States of America or Canada publicly traded over exchanges based in the United States or Canada and whose financial statements are readily available at no cost to Landlord, Guarantor shall not be obligated to provide financial statements to Landlord. All notices and other communications given pursuant to, or in connection with, this Guarantee shall be delivered in the same manner required in the Lease. All notices or other communications addressed to Guarantor shall be delivered at the address set forth below. This Guarantee shall be binding upon the heirs, legal representatives, successors and assigns of Guarantor and shall inure to the benefit of Landlord's successors and assigns.

This Guarantee will be governed by and construed in accordance with the laws of the Province of Ontario. The proper place of venue to enforce this Guarantee will be the county or district in which the Premises is located. In any legal proceeding regarding this Guarantee, including enforcement of any judgments, Guarantor irrevocably and unconditionally (a) submits to the jurisdiction of the courts of law in the county or district in which the Premises is located; (b) accepts the venue of such courts and waives and agrees not to plead any objection thereto; and (c) agrees that (1) service of process may be effected at the address specified herein, or at such other address of which Landlord has been properly notified in writing, and (2) nothing herein will affect Landlord's right to effect service of process in any other manner permitted by applicable law.

Guarantor acknowledges that it and its counsel have reviewed and revised this Guarantee and that the rule of construction to the effect that any ambiguities are to be resolved against the drafting party will not be employed in the interpretation of this Guarantee or any document executed and delivered by Guarantor in connection with the transactions contemplated by this Guarantee.

The representations, covenants and agreements set forth herein will continue and survive the termination of the Lease or this Guarantee. The masculine and neuter genders each include the masculine, feminine and neuter genders. This instrument may not be changed, modified, discharged or terminated orally or in any manner other than by an agreement in writing signed by Guarantor and Landlord. The words "Guarantee" and "guarantees" will not be interpreted to limit Guarantor's primary obligations and liability hereunder.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK.]

Executed as of the Lease Date.

CIENA CORPORATION , a Delaware corporation

By: _____

Name: _____

Title: _____

Address: 7035 Ridge Rd.

Hanover, Maryland 21076-1426

Attention: General Counsel

with a copy to:

7035 Ridge Rd.

Hanover, Maryland 21076-1426

Attention: Vice President of Corporate Real Estate and Facilities

EXHIBIT P

RIGHT OF FIRST REFUSAL (5050 INNOVATION)

Tenant's rights under this Exhibit shall apply only if Landlord exercises its right to cancel this Lease as to the portion of the Premises proposed to be sublet or assigned in accordance with Section 10.7, and Tenant's rights shall only become effective following Landlord entering into a lease for the space subject to such cancellation. If Landlord has exercised its right to cancel this Lease for the entirety of the Premises in accordance with Section 10.7, the rights under this Exhibit shall not apply.

Subject to then-existing renewal or expansion options or other preferential rights of other tenants, if Landlord receives a Third Party Offer to lease any of the space recaptured by Landlord in accordance with Section 10.7 (the "**Refusal Space**") and Landlord is willing to accept the terms of such Third Party Offer, Landlord shall offer to lease to Tenant the Refusal Space on the same terms and conditions as the Third Party Offer; such offer shall 13.1.5 be in writing, 13.1.6 specify the part of the Refusal Space being offered to Tenant hereunder (the "**Designated Refusal Space**"), 13.1.7 specify the rent to be paid for the Designated Refusal Space, and 13.1.8 contain the basic terms and conditions of the Third Party Offer (the "**Refusal Notice**"). The Refusal Notice shall be substantially similar to the Refusal Notice attached to this Exhibit. Tenant shall notify Landlord in writing whether Tenant elects to lease the entire Designated Refusal Space on the terms set forth in the Refusal Notice, within ten (10) business days after Landlord delivers to Tenant the Refusal Notice. If Tenant elects to lease the Designated Refusal Space within said 10 business day period, Landlord and Tenant shall execute an amendment to this Lease, effective as of the date the Designated Refusal Space is to be included in the Premises, on the same terms as this Lease except 1. the Basic Rent shall be the amount specified in the Refusal Notice, 2. the term for the Designated Refusal Space shall be that specified in the Refusal Notice, 3. Tenant shall accept the Designated Refusal Space in an "**AS IS**" condition, 4. Landlord shall not be required to perform any work therein, 5. Landlord shall not provide to Tenant any allowances (e.g., moving allowance, construction allowance, and the like) or other tenant inducements except as specifically provided in the Refusal Notice, and 6. other terms set forth in the Lease which are inconsistent with the terms of the Refusal Notice shall be modified accordingly. Notwithstanding the foregoing, if the Refusal Notice includes space in excess of the Refusal Space, Tenant must exercise its right hereunder, if at all, as to all of the space contained in the Refusal Notice (which option must be exercised by Tenant within 10 business days after Landlord delivers the Refusal Notice and all other information related thereto).

If Tenant fails or is unable to exercise its right hereunder with respect to the Designated Refusal Space within the aforesaid 10 business day period pursuant to a Refusal Notice, then such right shall lapse, time being of the essence with respect to the exercise thereof (it being understood Tenant's right hereunder is a one-time right only as to each Designated Refusal Space the first time it is offered to Tenant hereunder), and Landlord may lease all or a portion of the Designated Refusal Space to third parties on such terms as Landlord may elect. For purposes hereof, if a Refusal Notice is delivered for less than all of the Refusal Space but such notice provides for an expansion, right of first refusal, or other preferential right to lease some of the remaining portion of the Refusal Space, such remaining portion of the Refusal Space shall thereafter be excluded from the provisions of this Exhibit. Unless otherwise agreed in writing by Landlord and Tenant's real estate broker, in no event shall Landlord be obligated to pay a commission with respect to any space leased by Tenant under this Exhibit, and Tenant and Landlord shall each indemnify the other against all costs, expenses, reasonable attorneys' fees, and other liability for commissions or other compensation claimed by any broker or agent claiming the same by, through or under the indemnifying party.

Tenant's rights under this Exhibit shall terminate, at Landlord's option, if (i) an Event of Default exists as of the date of Tenant's exercise of its rights under this Exhibit or as of the effective date of the addition of the Designated Refusal Space to the Premises, (ii) this Lease or Tenant's right to possession of any of the Premises is terminated, (iii) Tenant assigns its interest in this Lease other than to a Permitted Transferee, (iv) Landlord determines, in its sole but commercially reasonable discretion, that Tenant, its Permitted Transferee, or Guarantor does not have reasonably adequate creditworthiness based on similar sized entities leasing similar size premises in the submarket in which the Building is located as of the date of Tenant's exercise of its rights under this Exhibit or as of the effective date that the Designated Refusal Space is to be leased by Tenant, (v) Tenant fails to timely exercise its option under this Exhibit,

time being of the essence with respect to Tenant's exercise thereof, (vi) Guarantor fails to execute an amendment to the Guarantee contemporaneously with Tenant's execution of the lease amendment adding the Designated Refusal Space to the Premises, time being of the essence with respect thereto, or (vii) less than one full calendar year remains in the initial Term of this Lease and Tenant has not previously exercised its extension or renewal rights, if any.

As a condition to the effectiveness of Tenant's exercise of its rights under this Exhibit, the Guarantee executed by Guarantor shall be amended simultaneously with the execution of the lease amendment adding the Designated Refusal Space to the Premises to confirm that all of the obligations of Tenant with respect to the Designated Refusal Space will be guaranteed by Guarantor.

Statement of Computation of Ratio of Earnings to Fixed Charges

	Year Ended October 31,		
	2012	2013	2014
Pre-tax loss from continuing operations	\$ (134,699)	\$ (80,191)	\$ (26,673)
Fixed charges:			
Interest expense	39,653	44,042	47,115
Portion of rental expense representative of interest factor	7,149	7,664	7,550
Total fixed charges	46,802	51,706	54,665
Pre-tax income (loss) from continuing operations plus fixed charges	\$ (87,897)	\$ (28,485)	\$ 27,992
Ratio of losses to fixed charges (1)	\$ —	\$ —	\$ —

(1) Pre-tax losses from continuing operations plus fixed charges were inadequate to cover total fixed charges.

<u>Subsidiary</u>	<u>Jurisdiction of Incorporation or Organization</u>
Ciena Communications, Inc.	Delaware
Ciena Canada, Inc.	Canada
Ciena Limited	United Kingdom

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-27131, 333-30900, 333-72474, 333-91294, 333-102462, 333-103328, 333-113872, 333-115287, 333-121110, 333-123509, 333-123510, 333-149520, 333-149929, 333-163927, 333-166125, 333-180332, 333-180333, and 333-195498) and on Form S-3 (No. 333-108476 and 333-149519) of Ciena Corporation of our report dated December 19, 2014 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Baltimore, Maryland
December 19, 2014

**CIENA CORPORATION
CERTIFICATION OF CHIEF EXECUTIVE OFFICER**

I, Gary B. Smith, certify that:

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

Date: December 19, 2014

/s/ Gary B. Smith

Gary B. Smith

President and Chief Executive Officer

CIENA CORPORATION
CERTIFICATION OF CHIEF FINANCIAL OFFICER

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

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

Date: December 19, 2014

/s/ James E. Moylan Jr.

James E. Moylan Jr.

Senior Vice President and Chief Financial Officer

CIENA CORPORATION

**Written Statement of Chief Executive Officer
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

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

- (a) the Report on Form 10-K of the Company for the year ended October 31, 2014 filed on the date hereof with the Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (b) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Gary B. Smith

Gary B. Smith

President and Chief Executive Officer

December 19, 2014

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

CIENA CORPORATION

**Written Statement of Chief Financial Officer
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

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

- (a) the Report on Form 10-K of the Company for the year ended October 31, 2014 filed on the date hereof with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (b) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ James E. Moylan Jr.

Senior Vice President and Chief Financial Officer

December 19, 2014

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