

CALIX, INC
Form 10-K
February 22, 2013
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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 December 31, 2012

OR

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

For the transition period from _____ to _____

Commission File Number: 001-34674

Calix, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

68-0438710
(I.R.S. Employer
Identification No.)

1035 N. McDowell Blvd.
Petaluma, California
(Address of Principal Executive Offices)

94954
(Zip Code)

Registrant's telephone number, including area code (707) 766-3000

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

Title of each class	Name of each exchange on which registered
Common Stock, \$0.025 par value	The New York Stock Exchange

Securities registered pursuant to section 12(g) of the Act:

(Title of class)
(Title of class)

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:

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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 (§232.405 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 (§229.405 of this chapter) 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 Exchange Act.

Large Accelerated Filer Accelerated Filer

Non-accelerated filer (Do not check if a smaller reporting Company) 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 Common Stock held by non-affiliates of the registrant based upon the closing sale price on the New York Stock Exchange on June 29, 2012, the last business day of the Registrant's most recently completed second fiscal quarter, was approximately \$325,447,629. Shares held by each executive officer, director and by each other person (if any) who owns more than 10% of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 14, 2013, the number of shares of the registrant's common stock outstanding was 48,912,031.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2013 annual meeting of stockholders are incorporated by reference in Items 10, 11, 12, 13 and 14 of Part III.

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SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This report includes forward-looking statements that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this report, including statements regarding Calix's future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "believe," "may," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," "predict," "potential," or the negative of these terms or similar expressions. Forward-looking statements include, without limitation, Calix's expectations concerning the outlook for its business, productivity, plans and goals for future operational improvements and capital investments, operational performance, future market conditions or economic performance and developments in the capital and credit markets and expected future financial performance.

Forward-looking statements involve a number of risks, uncertainties and assumptions, and actual results or events may differ materially from those projected or implied in those statements. Important factors that could cause such differences include, but are not limited to:

- our ability to predict our revenue and plan our expenses appropriately;
- the capital spending patterns of communications service providers ("CSPs"), and any decrease or delay in capital spending by CSPs due to economic, regulatory or other reasons;
- the impact of government-sponsored programs on our customers;
- intense competition;
- our ability to develop new products or enhancements that support technological advances and meet changing CSP requirements;
- our ability to achieve market acceptance of our products and CSPs' willingness to deploy our new products;
- the concentration of our customer base;
- the length and unpredictability of our sales cycles;
- our focus on CSPs with limited revenue potential;
- our lack of long-term, committed-volume purchase contracts with our customers;
- our ability to increase our sales to larger North American as well as international CSPs;
- our exposure to the credit risks of our customers;
- fluctuations in our gross margin;
- the interoperability of our products with CSP networks;
- our dependence on sole and limited source suppliers;
- our ability to manage our relationships with our contract manufacturers;
- our ability to forecast our manufacturing requirements and manage our inventory;
- our products' compliance with industry standards;
- our ability to expand our international operations;
- our inability to recruit or retain appropriate resellers may reduce our sales and thus harm our business;
- the ability to address and resolve risks related to acquisitions;
- our ability to protect our intellectual property and the cost of doing so;
- the quality of our products, including any undetected hardware errors or bugs in our software;
- our ability to estimate future warranty obligations due to product failure rates;
- our ability to obtain necessary third-party technology licenses;
- any obligation to issue performance bonds to satisfy requirements under the U.S. Department of Agriculture's Rural Utility Service ("RUS"), contracts;
- the attraction and retention of qualified employees and key personnel;
- our ability to build and sustain the proper technology infrastructure; and
- our ability to maintain proper and effective internal controls.

Calix cautions you against placing undue reliance on forward-looking statements, which reflect our current beliefs and are based on information currently available to us as of the date a forward-looking statement is made.

Forward-looking statements set forth herein speak only as of the date of this report on Form 10-K. We undertake no

obligation to revise forward-looking statements to reflect future events, changes in circumstances, or changes in beliefs. In the event that we do update any forward-looking statements, no inference should be made that we will make additional updates with respect to that statement, related matters, or any other forward-looking statements.

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PART I

ITEM 1. Business

Overview

Calix (together with its subsidiaries, “Calix,” the “Company,” “our,” “we,” or “us”) was incorporated in August 1999, and is a Delaware corporation. We are a leading provider in North America of broadband communications access systems and software for fiber- and copper-based network architectures that enable communications service providers (“CSPs”), to transform their networks and connect to their residential and business subscribers. We enable CSPs to provide a wide range of revenue-generating services, from basic voice and data to advanced broadband services, over legacy and next-generation access networks. We focus solely on CSP access networks, the portion of the network that governs available bandwidth and determines the range and quality of services that can be offered to subscribers. We develop and sell carrier-class hardware and software products, which we refer to as the Unified Access portfolio that are designed to enhance and transform CSP access networks to meet the changing demands of subscribers rapidly and cost-effectively.

Our Unified Access portfolio consists of four core platforms and/or nodes, the B6 Ethernet service access nodes (“B-Series nodes”), the C7 multiservice, multiprotocol access platform (“C-Series platform”), the E-Series Ethernet service access platforms and nodes (“E-Series platforms and nodes”), and the BLM1500 gigabit passive optical network (“GPON”) access terminal. These platforms, nodes, and terminals are complemented by the P-Series and T-Series optical network terminals (“ONTs”) and residential gateways (“RGs”), and the Calix Management System (“CMS”), Entriview element management software, and Compass suite of value-added software applications. Our broad and comprehensive portfolio serves the CSP network from the central office or data center to the subscriber premises and enables CSPs to deliver both basic voice and data and advanced broadband services over legacy and next-generation access networks. These packet-based platforms enable CSPs to rapidly introduce new revenue-generating services, while minimizing the capital and operational costs of CSP networks. The Unified Access portfolio allows CSPs to evolve their networks and service delivery capabilities at a pace that balances their financial, competitive and technology needs.

We believe that the rapid growth of Internet and data traffic, introduction of bandwidth-intensive advanced broadband services, such as high-speed Internet, Internet protocol television (“IPTV”), mobile broadband, high-definition video, and online gaming, and the increasingly competitive market for residential and business subscribers are driving CSPs to invest in and upgrade their access networks. We also believe that CSPs will gradually transform their access networks to deliver these advanced broadband services over fiber-based networks, thereby preparing networks for continued bandwidth growth, the introduction of new services and more cost-effective operations. During this time, CSPs will increasingly deploy new fiber-based network infrastructure to enable this transition while continuing to support basic voice and data services over legacy networks. Our portfolio is designed to enable this evolution of the access network efficiently and flexibly.

We market our access systems and software to CSPs globally through our direct sales force as well as a limited number of resellers. As of December 31, 2012, over sixteen million ports of our Unified Access portfolio have been deployed at more than 1,150 CSPs worldwide, whose networks serve over 100 million subscriber lines in total. Our customers include many of the world's largest communications providers. In addition, we have over 425 commercial video customers and have enabled over 750 customers to deploy gigabit passive optical network, Active Ethernet and point-to-point Ethernet fiber access networks.

We have a single reporting segment. Additional information about geographic areas required by this item is incorporated herein by reference to Note 12, “Segment Information” of the Notes to Consolidated Financial Statements of this Form 10-K.

Industry Background

CSPs compete in a rapidly changing market to deliver a range of voice, data and video services to their residential and business subscribers. CSPs include wireline and wireless service providers, cable multiple system operators (“MSOs”), electrical cooperatives, and municipalities. The rise in Internet-enabled communications has created an environment in which CSPs are competing to deliver voice, data and video offerings to their subscribers across fixed

and mobile networks. Residential and business subscribers now have the opportunity to purchase an array of services such as basic voice and data as well as advanced broadband services such as high-speed Internet, IPTV, mobile broadband, high-definition video and online gaming from a variety of CSPs. The rapid growth in new services is generating increased network traffic.

For example, Cisco Systems, Inc. estimates that global IP traffic will grow at a compound annual growth rate of 32% per year from 2010 to reach approximately 80.5 exabytes per month in 2015. We believe that increased network traffic will be largely driven by video applications, which is expected to account for over 90% of global consumer traffic by 2015. CSPs are also broadening their offerings of bandwidth-intensive advanced broadband services, while maintaining support for their widely utilized basic voice and data services. CSPs are being driven to evolve their access networks to enable cost-effective delivery of a broad range of services demanded by their subscribers. With strong subscriber demand for low latency and bandwidth-intensive applications, CSPs are seeking to offer new services, realize new revenue streams, build out new infrastructure and differentiate themselves from their competitors. CSPs typically compete on their cost to acquire and retain subscribers, the quality of their service offerings and the cost to deploy and operate their networks. In the past, CSPs offered different solutions delivered over distinct networks designed for specific services and were generally not in direct competition. For example, traditional wireline service providers provided voice services whereas cable MSOs delivered cable television services. Currently, CSPs are increasingly offering services that leverage Internet protocol ("IP"), thereby enabling CSPs of all types to offer a comprehensive bundle of IP-based voice, data and video services to their subscribers. This has increased the level of competition among CSPs as wireline and wireless service providers, cable MSOs and other CSPs can all compete for the same residential and business subscribers using similar types of IP-based services.

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Access Networks are Critical and Strategic to CSPs and Policymakers

Access networks, also known as the local loop or last mile, directly and physically connect the residential or business subscriber to the CSP's central office or similar facilities. The access network is critical for service delivery as it governs the bandwidth capacity, service quality available to subscribers and ultimately the services CSPs can provide to subscribers. Providing differentiated, high-speed, high quality connectivity has become increasingly critical for CSPs to retain and expand their subscriber base and to launch new services. Typically, subscribers consider service breadth, price, ease of use and technical support as key factors in the decision to purchase services from a CSP. As CSPs face increasing pressure to retain their basic voice and data customers in response to cable MSOs offering voice, data and video services, it is critical for CSPs to continue to invest in and upgrade their access networks in order to maintain a compelling service offering, drive new revenue opportunities and maintain and grow their subscriber base. Access networks can meaningfully affect the ongoing success of CSPs.

Governments around the world recognize the importance of expanding broadband networks and delivering advanced broadband services to more people and businesses. For example, in February 2009, the U.S. government passed the American Recovery and Reinvestment Act ("ARRA"), which set aside approximately \$7.2 billion as Broadband Stimulus funds for widening the reach of broadband access across the United States, a portion of which includes broadband access equipment. These funds, distributed in the form of grants, loans and loan guarantees, primarily target wireline and wireless service providers operating in rural, unserved and underserved areas in the United States. Many CSPs have actively pursued stimulus funds and have submitted various proposals to receive assistance for their broadband access infrastructure projects. Awards for these projects have been issued between December 2009 and September 2010. The timetable for completion of funded projects varies between the two agencies administering the awards. Projects funded under the Broadband Technology Opportunities Program ("BTOP"), which is administered by the National Telecommunications and Information Administration ("NTIA"), must be completed by September 30, 2013. Projects funded under the Broadband Initiatives Program ("BIP"), which is administered by the Rural Utilities Service, must be completed by June 30, 2015.

Limitations of Traditional Access Networks

CSPs rely on the capabilities and quality of their access networks to sustain their business and relationships with their subscribers. In the past, subscribers had little influence over the types of services provided by CSPs. Today, subscribers can be more selective among CSPs and they are increasingly demanding advanced broadband services in addition to basic voice and data services. In general, access networks are highly capital intensive and CSPs have historically upgraded capacity as technology and subscriber demands on their networks changed. We believe CSPs will increasingly integrate fiber-and Ethernet-based access networks to enable the delivery of more advanced broadband services at a lower cost while at the same time enabling the continued delivery of basic voice and data services. Thus far, CSPs have taken an incremental approach to capacity upgrades in their access networks. As a result CSPs face multiple challenges concerning their access networks, business models and service delivery capabilities, including:

▲ **Complex Patchwork of Networks and Technologies**—In order to upgrade their access networks CSPs have typically added networks for new residential or business services that they deliver, such as digital subscriber line ("DSL"), data over cable service interface specification ("DOCSIS"), GPON or Gigabit Ethernet on top of existing networks. This led to an overbuild of access technologies and an unnecessarily complex patchwork of physical connections between the central office and the subscriber. In addition, CSPs have generally begun to expand the penetration of fiber into their access networks, thereby shortening the length of the subscriber connection through other lower bandwidth media types (such as copper-based or coaxial cable-based networks). CSPs have also attempted to evolve their access networks to enable more efficient packet-based services by adding Ethernet protocols on top of existing asynchronous transfer mode ("ATM"), and DSL protocols. In addition, CSPs have often deployed separate equipment to facilitate the delivery of Synchronous Optical Networking ("SONET"), Gigabit Ethernet and 10 Gigabit Ethernet transport, which connects CSP central offices with their access networks, further increasing the complexity and the cost of their networks. This approach has left most CSPs with disparate architectures, features, functions and capabilities in different parts of their networks. This increasingly complex, patchwork approach to deploying access networks and delivering new services to their subscribers has created potential complications for CSPs within their access networks.

These potential complications limit data transmission capability, increase the cost of operation and maintenance and can negatively impact the subscriber experience.

Limited Capacity from Legacy Access Architectures—Legacy access network architectures were designed to address earlier generation communication demands of wireline telephone, cable television and cellular services. Such access networks have physical limitations in their ability to scale bandwidth, avoid latency issues and deliver advanced broadband services, which subscribers demand today and are expected to increasingly demand in the future. In addition, CSPs understand the need to add fiber to their networks to provide the bandwidth required to scale advanced broadband services. However, it is costly and complex to integrate fiber-based technologies into legacy access networks.

Inflexible Technologies Increase Network Switching Costs—Legacy access networks were architected around a narrow set of technologies. For example, traditional voice calls use circuit switching technology to allocate a fixed amount of network capacity to each call, regardless of whether such capacity is fully utilized. The emergence of packet-based technologies, primarily IP and Ethernet, has significantly improved the ability to transmit data efficiently across networks as bandwidth is only consumed when signals are actually being transmitted. Most legacy access networks do not allow circuit- and packet-based technologies to co-exist or to evolve from one technology to another.

Inefficient Service Roll-out Constrains Subscriber Offerings—Legacy access networks were designed to support a narrow range of services and as a result, they limit the ability of CSPs to provision the advanced broadband services increasingly demanded by their subscribers. Packet-based networks are more flexible and efficient than traditional circuit-switched networks. For example, to provision additional business services in a legacy access network, a CSP would typically deploy additional physical connections and equipment, whereas packet-based infrastructure allows a CSP to change or add services virtually, without the presence of a

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service technician or the installation of new equipment. In order to deploy these services quickly and efficiently, CSPs must be able to utilize their existing infrastructure while upgrading the legacy access network to packet-based technologies.

Highly Reliable Access Products are Difficult to Engineer and Manage—Given the critical nature of access networks and their typical deployment in remote and distant locations, access infrastructure products must be highly reliable. Unlike most other communications equipment which is deployed in environmentally controlled central offices or similar facilities, most access equipment is deployed in outdoor environments and must be specifically engineered to operate in variable and often extremely harsh conditions, as well as fit into smaller spaces, such as on a street corner, near office buildings or on the side of a house or cellular tower. Since the access portion of the network is broadly distributed, it is expensive as well as difficult to manage and maintain. CSPs require access network equipment that can perform reliably in these uncontrolled environments and be deployed in a variety of form factors, thereby adding significant engineering and product development challenges as compared to most other forms of communications infrastructure equipment. In addition, some portion of the access market is supported by government initiatives and products sold into this segment require additional government certifications and approvals in order to qualify for deployment.

Expensive to Deploy and Operate—As a result of deploying multiple networks with discrete functions, legacy access networks require a wide variety of equipment to be installed, maintained and ultimately replaced, thereby placing a significant and recurring capital and operating expense burden on the CSP. Once installed, this equipment occupies valuable space inside a central office (increasingly referred to as a data center by CSPs), requires frequent labor-intensive maintenance and consumes meaningful amounts of power. Moreover, the lack of integration across protocols and fiber- and copper-based network architectures negatively impacts network performance. Inferior network performance diminishes the subscriber experience and increases network operating costs by increasing service calls, the number of required support staff and the frequency of equipment upgrades and replacements. As broadband network availability and quality are becoming more critical to subscribers, lack of network reliability can be materially disruptive, expensive and ultimately increase subscriber churn, thereby negatively impacting the CSP's business.

Given these limitations of legacy access networks, we believe CSPs will increasingly emphasize fiber- and Ethernet-based technologies in their access networks thereby enabling the rapid, cost-effective deployment of advanced broadband services. Such technologies reduce overhead expenses, simplify network architectures and seamlessly integrate legacy and next-generation networks. We therefore believe that successful CSPs will be those that evolve from providing basic subscriber connectivity to providing the most relevant services and subscriber experience.

The Calix Solution

We are a leading provider in North America of broadband communications access systems and software for fiber- and copper-based network architectures that enable CSPs to connect to their residential and business subscribers. Our Unified Access Infrastructure portfolio enables CSPs to quickly meet subscriber demands for both basic voice and data as well as advanced broadband services, while providing CSPs with the flexibility to optimize and transform their networks at a pace that balances their financial, competitive and technology needs. Our systems and software leverage packet-based technologies that enable CSPs to offer a wide range of revenue-generating services, from basic voice and data to advanced broadband services regardless of protocol or network connection media. Our Unified Access Infrastructure portfolio consists of our B-Series nodes, our C-Series platform, our E-Series platforms and nodes, and the BLM1500 gigabit passive optical network access terminal. These platforms, nodes, and terminals are complemented by the P-Series and T-Series optical network terminals and residential gateways, the CMS, Entriview element management software, and the Compass suite of value-added software applications.

We believe that our Unified Access portfolio of network and premises-based solutions provides the following benefits to CSPs:

- **Single Unified Access Network for Basic and Advanced Services** - Our Unified Access portfolio allows for a broad range of subscriber services to be provisioned and delivered over a single unified network. These systems can deliver basic voice and data, advanced broadband services, including high-speed Internet, IPTV, mobile broadband,

high-definition video and online gaming, as well as integrated transport within our Unified Access portfolio, all of which can be monitored and managed by CMS. The newly acquired BLM1500 terminals and its management system, Entriview, are currently being integrated with CMS. In addition, our systems can be deployed in both small and large form factors across multiple deployment scenarios depending on subscriber proximity and service requirements. Our multiservice approach allows CSPs to utilize their legacy access networks during the course of their equipment upgrade and network migration, saving them time and money in delivering both basic voice and data and advanced broadband services.

- **High Capacity and Operational Efficiency** - Our Unified Access portfolio is designed to facilitate the evolution of CSP access networks to fiber- and Ethernet-based network architectures. Our portfolio includes platforms that exceed the capacity of the products of our most direct competitors. Our platforms are designed and optimized for fiber- and copper-based network architectures. We also have a broad portfolio of feature-rich fiber ONTs that serve as the on-premises gateways for new services to subscribers. Our extended reach GPON offers our customers greater capacity and operational efficiencies, including the ability to reach subscribers further away from a CSP's central office, thereby also allowing CSPs to consolidate multiple central offices and further reduce operating expense. Furthermore, our ONTs auto-detect fiber access technologies supporting both GPON and point-to-point Gigabit Ethernet and provide CSPs additional cost and management efficiencies.

- **Highly Flexible Technology Solutions** - Our Unified Access portfolio enables CSPs to utilize legacy access network infrastructure during their migration towards fiber- and Ethernet-based access networks. Our portfolio supports multiple protocols, different form factors and modular options optimized for a variety of installation locations and environments and multiple services delivered over fiber- and copper-based network architectures.

- **Seamless Transition to Advanced Services** - Our Unified Access portfolio enables CSPs to better manage the evolution of their access networks by transitioning the delivery of basic voice and data services to advanced broadband services. Our C-Series

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platform supports ongoing demand for basic voice and data services and facilitates a seamless and controlled migration to IP-based services. For CSPs without legacy network constraints, our B-Series nodes and E-Series platforms, and our BLM1500 terminals allow CSPs to deploy advanced broadband services rapidly and cost effectively to their subscribers.

- **Highly Reliable and Purpose-Built Solutions for Demands of Access** - Our Unified Access portfolio is designed for high availability and purpose-built for the demands of access network deployments. Our carrier-class products are predominantly environmentally hardened and field-tested to be capable of withstanding harsh environmental conditions, including temperatures between -40 and 65 degrees Celsius, extremely dry or wet conditions and physical abuse. Our access systems are built and tested to meet or exceed network equipment-building system standards, which are a set of safety, spatial and environmental design guidelines for telecommunications equipment. Our products are highly compatible and designed to be easily integrated into the existing operational and management infrastructure of CSP access networks. Our portfolio can be deployed in multiple form factors and power configurations to address a wide range of deployment scenarios influenced by space and power constraints.

- **Compelling Customer Value Proposition** - We believe our Unified Access portfolio offers CSPs a compelling value proposition. Our portfolio provides CSPs the flexibility to upgrade their networks over time, reduce operational costs and maximize their return on capital expenditures. Our packet-based platforms enable CSPs to offer new services more quickly and generate new revenue opportunities. We believe the interoperability and compatibility of our portfolio reduces the complexity and cost of managing CSP networks.

Our Strategy

Our Unified Access portfolio enables the delivery of basic voice and data and advanced broadband services, across multiple protocols and form factors over fiber- and copper-based network architectures. Our objective is to leverage our Unified Access portfolio to become the leading supplier of access systems and software that enable CSPs to transform their networks and business models to meet the changing demands of their subscribers. The principal elements of our strategy are:

- **Continue Our Sole Focus on Access Systems and Software** - Our dedicated focus on access has been an important driver of our success with our customers. We believe our focus has allowed us to develop innovative access systems and a highly efficient service and deployment model that have been widely implemented by CSPs. Virtually all of our large competitors in the access market devote some percentage of their resources to products outside of the access network, and in some cases, products not even designed for CSPs. We intend to continue to focus our efforts on the access market, which we believe will enable us to continue to deliver compelling, timely and innovative access solutions to CSPs.

- **Continue to Enable our Customers to Transform Their Networks and Business Models** - We believe that residential and business subscribers are pressuring CSPs to expand their offerings through the delivery of superior subscriber experiences. In response, CSPs need to transform their networks and business models by rapidly provisioning new services while minimizing the capital and operational costs of their networks. We believe our Unified Access portfolio enables CSPs to introduce new revenue-generating services as demanded by their subscribers.

- **Continue to Engage Directly with Customers** - We operate a differentiated business model focused on aligning with our customers, predominantly through direct engagement, service and support. Our direct customer engagement model allows us to target our sales resources as well as align our product development efforts closely to our customers' needs. Our direct engagement model is a key differentiator for our business and is critical to our continued market leadership. Although we do utilize resellers in some markets, particularly in international markets, our practice is to sell along-side the reseller and maintain the benefits of a close customer relationship.

- **Leverage our Growing Customer Footprint** - As of December 31, 2012, over sixteen million ports of our Unified Access portfolio have been deployed at more than 1,150 CSPs worldwide, whose networks serve over 100 million subscriber lines in total. Our customers include many of the world's largest communications providers. This footprint provides us with the opportunity to sell additional components of our Unified Access portfolio to existing customers. For example, the vast majority of our existing customers have purchased additional line cards and other products from us after their initial purchase. We have also demonstrated that our footprint, combined with the flexibility of our portfolio, gives us incumbency benefits to sell complementary or new offerings in the future. For instance, within

three quarters of the introduction of our first E7 platform in the first quarter of 2010, we had exceeded 150 of our customers having purchased E7 platforms-the majority of whom already were deploying our B-Series nodes or C-Series platforms to deliver complementary services to their subscribers.

- **Expand Deliberately into New Market and Applications** - We believe that a disciplined approach to targeting markets and applications is critical to our long-term success. For example, we initially focused on rural ILECs and have achieved an industry leadership position as the majority of U.S. Independent Operating Companies ("IOCs"), have deployed our access systems and software. We have also recently entered new geographic markets, including Africa, Asia, Australia, Europe, and Latin America. These deployments complement our now significant deployments in Canada and the Caribbean. We will continue our disciplined approach of targeting new markets and applications in which we believe our products will rapidly gain customer adoption. For example, we are targeting additional markets for our fiber access solutions, including the mobile backhaul and cable business services markets.

- **Pursue Strategic Relationships, Alliances and Acquisitions** - We intend to continue to pursue strategic technology and distribution relationships, alliances and acquisitions that align us with CSPs' strategic direction to increase revenue-generating services while reducing the cost to deploy and operate their access networks. We believe these relationships, alliances and acquisitions will allow us to grow our footprint and enhance our ability to sell our access systems and software. We developed and invested in the Calix Compatible Program to assure interoperability across the ecosystem of the majority of vendors critical for implementing and delivering new advanced broadband services. This program has approximately 67 technology members to date

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and enables our customers to rapidly deploy proven solutions in their access networks. We work with Ericsson Inc. ("Ericsson") and Juniper Networks, Inc. to provide advanced broadband solutions globally and have partnered with Microsoft to ensure successful interoperability between our products and its Mediaroom IPTV application. In addition, our acquisitions of Optical Solutions, Inc. ("OSI") in 2006 and Occam Networks, Inc. ("Occam") in 2011, and our acquisition of fiber access assets from Ericsson in November 2012, have provided us with leading copper and fiber access technologies that have been integrated into our Unified Access portfolio.

Acquisition of Ericsson's Fiber Access Assets ("EFAA Acquisition")

On November 2, 2012, we acquired the fiber access assets of Ericsson, including the Ericsson EDA 1500 GPON solution and its complementary ONT portfolio, under an Asset Purchase Agreement that we entered into on August 20, 2012. Total consideration for the purchase was \$12.0 million in cash. As a result of this acquisition, Calix hired 50 U.S.-based employees of Ericsson, and transitioned ongoing support of the acquired products from Ericsson to Calix. We expect this acquisition to deliver powerful new complements to our industry-leading Unified Access portfolio. In connection with this acquisition, Calix and Ericsson also signed a non-exclusive global reseller agreement, under which Calix will become Ericsson's preferred global partner for broadband access applications. We expect this partnership to provide Calix with an extensive new global reseller channel, and we believe our acquisition of Ericsson's fiber access portfolio delivers powerful new complements to our industry-leading Unified Access portfolio. We believe this partnership will also provide Ericsson's existing fiber access customers with world-class support and maintenance, and an expanded portfolio of access systems and software from a leading company totally focused on access.

Customers

We operate a differentiated customer engagement model that focuses on direct alignment with our customers through sales, service and support. In order to allocate our product development and sales efforts efficiently, we believe that it is critical to target markets, customers and applications deliberately. We have traditionally targeted CSPs, which own, build and upgrade their own access networks and which also value strong relationships with their access systems and software suppliers.

As of December 31, 2012, we had more than 1,150 customers, the majority of which are based in the United States. The U.S. ILEC market is composed of three distinct "tiers" of carriers, which we categorize based on their subscriber line counts and geographic coverage. Tier 1 CSPs are very large with wide geographic footprints. They have greater than five million subscriber lines and they generally correspond with the former Regional Bell Operating Companies. Tier 2 CSPs also operate typically within a wide geographic footprint, but are smaller in scale, with subscriber lines that range from approximately half a million subscriber lines to approximately five million subscriber lines. Their service coverage areas are predominantly regional in scope and therefore are often known as Regional Local Exchange Carriers ("RLECs"). Tier 3 CSPs consist of over 1,000 predominantly local operators typically focused on a single or a cluster of communities. Often called IOCs, they range in size from a few hundred to approximately half a million subscriber lines. Because of similarities in subscriber line size and focused market footprint, we typically include Competitive Local Exchange Carriers and municipalities in this market segment.

To date, we have focused primarily on CSPs in the North American market. Our existing customers' networks serve over 100 million subscriber lines. A representative Tier 1 customer is CenturyLink, Inc. ("CenturyLink"). Representative Tier 2 customers include Frontier, Windstream Corp., Fairpoint, and TDS Telecommunications Corporation. Our Tier 3 CSP customers have historically accounted for a large percentage of our sales. We also serve new entrants to the access services market who are building their own access networks, including cable MSOs, such as Cox Communications, and municipalities. Moreover, we have entered new geographic markets, such as Africa, Asia, Australia, Europe, and Latin America that complement our significant market presence in Canada and the Caribbean. We anticipate that we will continue to target CSPs globally as part of our expansion strategy. We have a few large customers who have represented a significant portion of our sales in any given period. In 2012, 2011, and 2010, we had one such customer, CenturyLink, who accounted for 21%, 20%, and 29% of our revenue, respectively.

Some of our customers within the United States use or expect to use government-supported loan programs or grants to finance capital spending. Loans and grants through RUS, which is a part of the United States Department of

Agriculture, are used to promote the development of telecommunications infrastructure in rural areas. In addition, the Broadband Stimulus initiatives under the ARRA have also made funds available to certain of our customers. Sales to customers outside of the United States represented approximately 7%, 6%, and 15% of our revenues for the years ended December 31, 2012, 2011, and 2010, respectively. To date, our sales outside of the United States have predominantly been to customers in Canada and the Caribbean.

Customer Engagement Model

We market and sell our access systems and software predominantly through our direct sales force, supported by marketing and product management personnel, although we have recently expanded this model to include resellers both in North America and globally, including a global reseller relationship with Ericsson. Our sales effort is organized either by named accounts or regional responsibilities. Account teams comprise sales managers, supported by sales engineers and account managers, who work to target and sell to existing and prospective CSPs. The sales process includes analyzing their existing networks and identifying how they can utilize our products within their networks. We also offer advice regarding eligibility and also support proposals to the appropriate agencies when we are a material supplier. Even in circumstances where a reseller is involved, our sales and marketing personnel are often selling side-by-side with the reseller. We believe that our direct customer engagement approach provides us with significant differentiation in the customer sales process by aligning us more closely with our customers' changing needs.

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As part of our sales process, CSPs will usually perform a lab trial or a field trial of our access systems prior to full-scale commercial deployment. This is most common for CSPs purchasing a particular access system for the first time. Upon successful completion, the CSP generally accepts the lab and field trial equipment installed in its network and may continue with deployment of additional access systems. Our sales cycle, from initial contact with a CSP through the signing of a purchase agreement, may, in some cases, take several quarters.

Typically our customer agreements contain general terms and conditions applicable to purchases of our access systems and software. By entering into a customer agreement with us, a customer does not become obligated to order or purchase any fixed or minimum quantities of our access systems and software. Our customers generally order access systems and software from us by submitting purchase orders that describe, among other things, the type and quantities of our access systems and software that they desire to order, the delivery and installation terms and other terms that are applicable to our access systems and software. Customers who have been awarded RUS loans or grants are required to contract under form contracts approved by RUS.

Our direct customer engagement model extends to service and support. Our service and support organization works closely with our customers to ensure the successful installation and ongoing support of our Unified Access portfolio. Our service and support organization provides technical product support and consults with our customers to address their needs. We offer our customers a range of support offerings, including program management, training, installation and post-sales technical support. As a part of our pre-sales effort, our engineers design the implementation of our products in our customers' access networks to meet our customers' performance and interoperability requirements. Although some of our reseller arrangements allow resellers to provide support, training, installation, and post-sales technical support, these resellers still rely heavily on us to provide support to the customer.

Our U.S.-based technical support organization offers support 24 hours a day, seven days a week. With an active Calix Advantage agreement, customers receive a license to CMS, access to telephone support and online technical information, software product upgrades and maintenance releases, advance return materials authorization and on-site support, if necessary. Calix Advantage agreements are renewable on an annual basis. Most of our customers renew their Calix Advantage agreement. In addition, we offer extended warranty services for our products in one to five-year durations, which include the right to warranty coverage beyond the standard warranty period. For customers not under a Calix Advantage agreement or who have not purchased extended warranty services, product support and warranty services are provided for a fee on a per-incident basis.

Products and Technology

We develop, sell and support carrier-class hardware and software products, which we refer to as our Unified Access portfolio. Our Unified Access portfolio enables CSPs to deliver both basic voice and data and advanced broadband services over legacy and next-generation access networks. Our Unified Access portfolio consists of the following key features:

- **Broad Product Offering** — We offer a comprehensive portfolio of access systems and software that is deployed in the portion of the network that extends from the data center, central office, or similar facilities to a subscriber's premises. We sell our access systems in a variety of form factors, modular options and configurations that are important to CSPs. Our network-based products include our B-Series nodes, which provides multiservice over Ethernet via distributed nodes, our C-Series platform, which is our multiservice, multiprotocol access platform, and our Ethernet-focused E-Series platforms, which provide cost-effective, flexible service delivery of IP-based services. Our premises-based offering consists of our P-Series and T-Series ONTs and residential gateways, which are deployed in combination with our B-Series, C-Series and E-Series platforms and nodes, as well as the BLM1500 terminal. We offer an extensive line of ONTs and residential gateways to enable our customers to connect to their subscribers across a diverse set of form factors, protocols and functionality requirements.
- **Multiservice and Multiprotocol** — We develop our products and an extensive offering of service interfaces to ensure CSPs can connect to their subscribers to enable the delivery of basic voice and data or advanced broadband services over fiber- and copper-based network architectures regardless of protocol. Our C-Series platform also enables CSPs to integrate IP and legacy protocols as well as the integration of fiber- and copper-based connectivity in a single chassis. In doing so, the C-Series platform allows CSPs to evolve their access infrastructures over time. Our B-Series nodes and E-Series platforms and nodes are multiservice but focus solely on Ethernet. Our B-Series nodes are focused on

CSPs using Ethernet over copper and fiber and a distributed architecture to transform their networks. Our E-Series platforms and nodes are well suited for CSPs who are using Ethernet to transform their networks. Our B-Series, C-Series, and E-Series platforms and nodes are often, but not required to be, deployed together so that the C-Series platform can act as a protocol gateway for our B-Series and E-Series platforms and nodes.

- **Common Operating System Kernel** — All of our access systems are interoperable and are designed to be easily deployed and managed together as a single, unified access network. The C7, E7 and the E5-400 utilize a common Ethernet kernel, which we refer to as the Ethernet eXtensible Architecture ("EXA"), which was developed based on industry standard protocols and focused on the needs of the access network. Because our core platforms leverage this common operating system kernel, we can develop, test and introduce new access systems and software rapidly, and enable our customers to deploy advanced broadband services at their desired pace.

- **Unified Network Management** — Our CMS is server-based network management software capable of overseeing and managing multiple B-Series, C-Series, and E-Series networks. In addition, CMS performs all provisioning, maintenance and troubleshooting operations across disparate access technologies and networks through a common user interface. This enables CSPs to manage and unify the various elements of our Unified Access portfolio as a single, scalable platform. CMS is often integrated by our customers with their back-office systems for billing and provisioning. Entriview, the element management system for the BLM1500, is in the process of being integrated with CMS.

Our Unified Access portfolio allows CSPs to transform their legacy and mixed protocol access networks to fiber and Ethernet over time. CSPs often deploy our B-Series nodes, C-Series, and/or E-Series platforms, and our BLM1500 together in data centers, central offices,

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or similar facilities to interconnect data centers and central offices. Our C-Series platform can act as a protocol gateway when deployed with our B-Series and E-Series platforms and nodes. Our B-Series and E-Series platforms and nodes can be deployed either in data centers, central offices, remote network locations, existing cabinets or in customer premises locations depending upon the CSP's requirements. All of our B-Series, C-Series and E-Series platforms and nodes interoperate with and can terminate network traffic from our P-Series ONTs. Calix is working towards having the recently acquired BLM1500 terminals interoperable with E-Series platforms, and able to support some P-Series ONTs and residential gateways.

A graphic representation of how the various components of our Unified Access portfolio work together is shown in the network diagram below:

The graphic above depicts how a CSP might deploy our Unified Access portfolio in a CSP network. The network is divided into five segments: (1) the routed core network, (2) the data center / central office, (3) the remote terminal, (4) the node and (5) the subscriber, business or multi-dwelling unit ("MDU"), premises. First, voice, video or data content is aggregated by a router in the network core and transferred to a B6, C7, or E7. The content is then sent around a redundant Ethernet transport ring, which operates using the 10 Gigabit Ethernet or Gigabit Ethernet standard. The ring consists of a variety of Calix access platforms or nodes, including the B6, C7, the E7 and the E5-400, each of which may be located in other central offices or in remote terminal locations closer to subscribers. Content can be pulled from any one of these locations and delivered either to a Calix platform located at a remote node or directly to a subscriber premises. In the case where content is delivered to another Calix platform, the content can be delivered over a variety of fiber-based technologies, such as 10 Gigabit Ethernet, Gigabit Ethernet or multiple Gigabit Ethernet, or NxGE. Delivery to the subscriber premises over fiber or copper transmission lines is the final part of the access network. Delivery over fiber lines uses GPON, point-to-point Ethernet services, and delivery over copper lines uses DSL services or plain old telephone service ("POTS"). Our CMS manages all aspects of the Unified Access portfolio and supports features that allow remote management of equipment across the network, including equipment at the subscriber premises. The BLM1500 terminals and T-Series ONTs and residential gateways (not pictured) currently operate independent of the other Unified Access portfolio systems and are managed via the Entriview element management system, although we plan to enable them to interoperate with E-Series platforms and nodes and some P-Series ONTs and residential gateways, as well as CMS, in the future.

Calix B-Series Ethernet Service Access Nodes

Our B-Series Ethernet service access nodes consist of chassis-based nodes that are designed to support an array of advanced IP-based services offered by CSPs. Our B-Series nodes are designed to be carrier-class and enable CSPs to implement advanced Ethernet transport and aggregation, as well as voice, data and video services over both fiber- and copper-based network architectures. Our B-Series nodes are environmentally hardened and can be deployed in a variety of network locations, including data centers, central offices, remote terminals, video headends and co-location facilities. In addition, due to the small size of some of our B-Series nodes, many can be installed in confined locations such as remote nodes and multi-dwelling units. As such, many of our B-Series nodes can be deployed in most competitor and other third-party cabinets, or as stand-alone sealed nodes in our access network. Our B-Series nodes are managed using our CMS and can be deployed in conjunction with our C-Series and E-Series platforms as well as our P-Series ONTs. We believe the deployment flexibility and Ethernet focus of our B-Series nodes make them well suited for CSPs extending Ethernet services and fiber closer to the subscriber premises.

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Our B6 has three form factors. Our B6-001 is a one rack unit chassis with one line card slot, whereas the B6-006 is a 7 rack unit chassis with six line card slots and the B6-012 is a 12 rack unit chassis with 20 service line card slots. Our B6s deliver Ethernet services over fiber, including a wide range of GPON, point-to-point Gigabit Ethernet, and 10 Gigabit Ethernet services.

Key technology differentiators of the B-Series nodes are:

- Multiservice over Ethernet—Our B-Series nodes enable CSPs to offer high bandwidth, advanced broadband and low latency services across Ethernet over fiber- and copper-based network architectures.
- Deployment Flexibility—Our B-Series nodes are composed of three distinct form factor chassis between 1 and 12 rack units in height. The B-Series nodes are designed to deliver operational efficiencies without sacrificing deployment flexibility or service functionality. Our B-Series node options are optimally sized to deliver high bandwidth services from a data center, central office, remote terminal, remote node or MDU. For CSPs seeking additional flexibility and performance, the B6s can be combined with C-Series and E-Series platforms and nodes, all of which are managed by our CMS.
- High Capacity and Reliability—Our B-Series nodes have high data throughput capacity and are designed to meet the demanding bandwidth and low latency requirements of advanced broadband services for residential and business subscribers. Our B-Series nodes support a range of transport options from multiple 10 Gigabit Ethernet uplinks in each chassis down to redundant Gigabit Ethernet ports. The distributed intelligence of the B6s supports 10 gigabits per second in each deployed line card. The B6s also support T1 circuit emulation and are designed to be Metro Ethernet Forum (MEF 9 and MEF 14) compliant and to meet Network Equipment-Building System ("NEBS") requirements.
- Broad Array of Advanced Services Support—Our B-Series nodes support a broad array of advanced services including up to 48 VDSL2 and 48 ADSL2+ overlay or combination voice and DSL services ports as well as DSL port bonding on each line card, and offers multiple Gigabit Ethernet network uplinks. Our B6s also support a mix of GPON, point-to-point gigabit Ethernet and multiple Gigabit Ethernet and 10 Gigabit Ethernet ports. Line card options include a mix of GPON, point-to-point gigabit Ethernet, and 10 Gigabit Ethernet services, as well as traffic management and queuing, performance monitoring, and virtual local area network stacking to support quality of service.

The following pictures depict the B-Series nodes:

Calix C-Series Multiservice, Multiprotocol Access Platform

Our C7 multiservice, multiprotocol access platform ("C-Series platform"), is designed to support a wide array of basic voice and data services offered by CSPs, while also supporting advanced, high-speed, packet-based services such as Gigabit Ethernet, GPON and DSL (including very high-speed digital subscriber line 2 ("VDSL2"), and asymmetrical digital subscriber line 2+ ("ADSL2+") and advanced applications like IPTV. In so doing, our C-Series platform facilitates network transformation by integrating the functions required to transport and deliver voice, data and video services over both fiber- and copper-based network architectures. Our C-Series platform is a chassis-based product with 23 line card slots, three of which are used for common logic, switching fabric and uplinks, with the remaining 20 slots available for any service interface card we offer. Our C-Series platform is managed using our CMS. Our high-capacity C-Series platform is flexible and is designed to be deployed in a variety of locations, including data centers, central offices, remote terminals, video headends and co-location facilities. Our C-Series platform leverages a common operating system kernel, the EXA, that it shares with most of our E-Series Ethernet service access platforms and nodes ("E-Series platforms and nodes"), allowing for common provisioning and facilitated platform

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interoperability. The multiprotocol and integrated transport capabilities of our C-Series platform allow it to be deployed as an aggregation or gateway device for our B-Series and E-Series platforms and nodes and P-Series ONTs. Key technology differentiators of the C-Series platform are:

- Protocol Independent—Our C-Series platform enables the integration of multiple protocols through a system architecture where line cards perform specific protocol processing.
- High Capacity—Our C-Series platform can enable up to 200 gigabits per second total throughput capacity. It can provide service delivery speeds of up to 10 gigabits per second in network transport rings or directly to subscribers, which is significantly greater than the bandwidth that CSPs are typically providing to their subscribers. This enables CSPs to scale their advanced broadband service offerings over time without the need to change their equipment.
- Flexible Switching Architecture—Our C-Series platform supports a highly scalable switching architecture with characteristics similar to high performance routers. All services are converted to packets on line cards allowing our platform to natively switch circuits, cells and packets. As a result, both legacy and advanced packet-based services can be supported simultaneously or uniformly, allowing the C-Series to be deployed as a pure Ethernet delivery platform, a traditional service delivery platform or a hybrid services platform.
- Density—In typical applications, a single 14-inch high C-Series platform shelf can terminate 480 copper-based subscriber connections, or up to 5,120 fiber-to-the premises, or FTTP, subscribers using GPON. This functionality allows up to 2,400 subscribers of advanced broadband services over copper-based networks or over 25,000 subscribers over fiber-based networks to be served out of a single seven-foot rack in the central office.
- Reduced Risk of Technological Obsolescence—As new services and technologies are introduced to the network, our flexible C-Series architecture allows CSPs to add or swap line cards to introduce new functionality into the access system. New services such as IPTV and voice-over-Internet-protocol require new features like Internet Group Management Protocol channel change processing and protocol gateway support, which can easily be added without substantial changes to existing equipment. As a result, equipment purchased by CSPs can have longer useful lives, which can reduce CSPs' capital expenditures. The C7 can also support IPTV.
- Extensive Line Card Offering—Currently our C-Series platform offers 47 line cards that enable a diverse set of trunk and subscriber interfaces, ranging from basic voice service and specialized circuits to advanced broadband services such as packet-based Fast and gigabit Ethernet, SONET (up to optical carrier-48, or OC-48), VDSL2 and ADSL2+ across multiple copper pairs and GPON. In addition, our C-Series platform supports multiple combinations of service interface cards in any slot at any time. We believe this flexibility provides CSPs the ability to evolve networks toward higher-capacity, packet-based service offerings in a minimally disruptive and cost-effective manner.

The following pictures depict the C-Series platform and sample line cards:

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Calix E-Series Ethernet Service Access Platforms and Nodes

Our E-Series Ethernet service access platforms and Ethernet service access nodes ("E-Series platforms and nodes"), consist of chassis-based platforms as well as fixed form factor nodes that are designed to support an array of advanced IP-based services offered by CSPs. Our E-Series platforms and nodes are designed to be carrier-class and enable CSPs to implement advanced Ethernet transport and aggregation, as well as voice, data and video services over both fiber- and copper-based network architectures. Our E-Series platforms and nodes are environmentally hardened and can be deployed in a variety of network locations, including data centers, central offices, remote terminals, video headends and co-location facilities. In addition, due to the small size of many of our E-Series platforms, most can be installed in confined locations such as remote nodes and multi-dwelling units. As such, many of our E-Series platforms and nodes can be deployed in most competitor and other third-party cabinets, or as stand-alone sealed nodes in our access network. Our E-Series platforms and nodes are managed using our CMS and can be deployed in conjunction with our B-Series nodes, C-Series platform, and P-Series ONTs and residential gateways. We believe the deployment flexibility and Ethernet focus of our E-Series platforms and nodes make them well suited for CSPs extending Ethernet services and fiber closer to the subscriber premises.

Our E7 has two form factors. Our E7-2 is a one rack unit chassis with two line card slots, whereas the E7-20 is a 13 rack unit chassis with two common control card slots and 20 service line card slots. Our E7s deliver Ethernet services over copper and fiber, including a wide range of GPON, point-to-point Gigabit Ethernet, VDSL2, and 10 Gigabit Ethernet services. Our other E-Series nodes include the fixed form factor E5-100 and E5-400 node families, as well as the E3-12C and E3-48 sealed Ethernet service access nodes, which collectively deliver high-speed broadband with interfaces that range from 10 Gigabit Ethernet transport and aggregation to ADSL2+, VDSL2, and point-to-point Gigabit Ethernet.

Key technology differentiators of the E-Series platforms and nodes are:

- Standards-Based Switching Architecture—Our E7 and E5-400 utilize a common Ethernet kernel, the EXA, that was developed based on industry standard protocols and focused on the needs of the access network. EXA facilitates cross network awareness, installation, management and provisioning for our C-Series platform and our E-Series platforms.
- Multiservice over Ethernet—Our E-Series platforms and nodes enable CSPs to offer high bandwidth, advanced broadband and low latency services across Ethernet over fiber- and copper-based network architectures.
- Deployment Flexibility—Our E-Series platforms and nodes are composed of eight distinct small form factor configurations between 1 and 1.5 rack units in height and a 13 rack unit large chassis. The E-Series platforms and nodes are designed to deliver operational efficiencies without sacrificing deployment flexibility or service functionality. Our E-Series platforms are optimally sized to deliver high bandwidth services from a data center, central office, remote terminal, remote node or MDU. For CSPs seeking additional flexibility and performance, the E7-2 is modular and stackable and can be combined with other E7s or other B-Series, C-Series and E-Series platforms and nodes, all of which are managed by our CMS. Also managed by CMS, the E7-20 was built for the high capacity, low latency needs of the future.
- High Capacity and Reliability—Our E-Series platforms and nodes have high data throughput capacity and are designed to meet the demanding bandwidth and low latency requirements of advanced broadband services for residential and business subscribers. Our E-Series platforms and nodes support a range of transport options from six 10 Gigabit Ethernet uplinks in each E7-2 chassis down to redundant Gigabit Ethernet in the E5-100 node family. Our chassis-based E7-2 supports a redundant 100 gigabits per second backplane in each deployable module with line cards that further support a minimum of 100 gigabits per second switching capacity. The E7-20 supports the same 100 gigabits per second line card switching capacity per card, but houses each card in a 20 service line card slot chassis with a two terabits per second backplane. The E7 and the E5-400 also support transparent local area network services and are designed to be Metro Ethernet Forum compliant and to meet NEBS requirements.
- Broad Array of Advanced Services Support—Our E-Series platforms and nodes support a broad array of advanced services. Our E5-100 node family supports up to 24 VDSL2 and 48 ADSL2+ overlay or combination voice and DSL services ports as well as DSL port bonding, and offers multiple Gigabit Ethernet network uplinks. Our E3-12C supports up to 12 VDSL2 combination voice and DSL services ports as well as DSL port bonding, and offers multiple Gigabit Ethernet network uplinks. Our E3-48 supports up to 48 VDSL2 service ports as well as DSL port bonding and

the capability for port vectoring, and offers multiple 10 Gigabit Ethernet and 2.5 or single Gigabit Ethernet uplinks. Our E7 and the E5-400 support a mix of GPON, multiple Gigabit Ethernet and 10 Gigabit Ethernet ports. Line card options include a mix of GPON, point-to-point Gigabit Ethernet, 10 Gigabit Ethernet services, and in the case of the E7-2, 48 ports of VDSL2 combo services on a line card, which translates into an industry-leading 96 VDSL2 combo ports in a 1 rack unit form factor, as well as traffic management and queuing, performance monitoring and virtual local area network stacking to support quality of service.

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The following pictures depict the E-Series platforms and nodes:

Calix BLM1500 Gigabit Passive Optical Network Access Terminals

Our BLM1500 GPON access terminals are chassis-based systems that are designed to support an array of advanced IP-based services offered by CSPs. Our BLM1500 terminals are designed to be carrier-class and enable CSPs to implement advanced services such as voice, data and video services over fiber-based network architectures. Our BLM1500 terminals are deployed in data centers and central offices and are managed using our Entriview element management system. Our T-Series ONTs and residential gateways are deployed with the BLM1500 terminals. We believe the GPON and Ethernet focus of our BLM1500 terminals make them well suited for CSPs building large, carrier-class fiber access network. We launched our BLM1500 terminals in November 2012, following our acquisition of Ericsson's EDA 1500 GPON technology.

Our BLM1500 is a 17 rack unit chassis with two common control card slots and 18 service line card slots. Our BLM1500s deliver GPON-based Ethernet services over fiber. Key technology differentiators of the BLM1500 terminals are:

- **Multiservice over Ethernet**—Our BLM1500 terminals enable CSPs to offer high bandwidth, advanced broadband and low latency GPON services across Ethernet over fiber-based network architectures.
- **High Capacity and Reliability**—Our BLM1500 terminals have high data throughput capacity and are designed to meet the demanding bandwidth and low latency requirements of advanced broadband services for residential subscribers. Our BLM1500 supports a 320 gigabits per second backplane and houses up to 18 service line cards, including both 4-port and 8-port GPON line cards.
- **Global Tier 1 Backoffice Integration**—Our BLM1500 terminals and the Entriview element management system have been integrated into backoffice systems and deployed at dozens of Tier 1 CSPs globally.

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The following picture depicts the BLM1500 terminals:

Calix P-Series Optical Network Terminals and Residential Gateways

Our P-Series ONTs and residential gateways consist of a broad range of customer premises solutions, including standards-based ONTs and residential gateways, for residential and business use in conjunction with our B-Series, C-Series, and E-Series platforms and nodes. Our P-Series ONTs and residential gateways can auto-detect the bandwidth of the network and enable CSPs to change line rates and features without expensive truck rolls or hardware replacements. Our family of ONTs and residential gateways is designed to support advanced broadband services, such as IPTV, RF video, business services and mobile backhaul (including Ethernet OAM support for conformance with service level agreements). The design and flexibility of the P-Series allows CSPs to lower initial capital expenditures as well as reduce operational costs. To meet the deployment and service requirement needs of CSPs, we currently offer 40 ONT and residential gateway models available in a variety of form factors tailored to multiple deployment scenarios, including single homes, MDUs, businesses and cellular towers as illustrated below:

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Calix T-Series Optical Network Terminals and Residential Gateways

Our T-Series ONTs consist of a broad range of customer premises solutions, including standards-based ONTs and residential gateways, for residential and business use with our BLM1500 terminals. Our T-Series ONTs and residential gateways are designed to support advanced broadband services, such as IPTV, high speed data, and voice services. We launched our T-Series ONTs and residential gateways in November 2012, following our acquisition of Ericsson's EDA 1500 GPON technology and its supplementary ONT portfolio.

To meet the deployment and service requirement needs of CSPs, we currently offer a variety of ONT and residential gateway models available in an array of indoor form factors as illustrated below:

Calix Management System and Entriview

Our CMS and Entriview element management systems are server-based network management software, which enables CSPs to remotely manage their access networks and scale bandwidth capacity to support advanced broadband services and video. Our CMS and Entriview systems are capable of overseeing and managing multiple standalone networks and perform all provisioning, maintenance and troubleshooting operations for these networks across our B-Series, C-Series, and E-Series platforms and nodes (CMS) and BLM1500 terminals (Entriview). Additionally, our CMS and Entriview systems are designed to scale from small networks to large, geographically dispersed networks consisting of hundreds or even thousands of our access systems. Our CMS provides an enhanced graphic user interface and delivers a detailed view and interactive control of various management functions, such as access control lists, alarm reporting and security. For very large CSPs, our CMS and Entriview systems can be used in conjunction with operational support systems to manage large, global networks with tens of millions of subscribers. Our CMS and Entriview systems are scalable to support large networks and enables integration into the other management systems of our customers. For smaller CSPs, our CMS operates as a standalone element management system, managing service provisioning and network troubleshooting for hundreds of independent C-Series and E-Series networks consisting of thousands of shelves and P-Series ONTs.

We offer CSPs a graphical user interface-based management software for provisioning and troubleshooting a service, and the capacity for bulk provisioning and reporting for thousands of elements simultaneously. Our CMS also has open application programming interfaces that allow third-party software developers to extend our functionality to include home provisioning, remote troubleshooting and applications monitoring and management. The OccamView element management system is currently used to provide management services for some B6 and 2000 family of ONT customers, however, these ONT products are being fully integrated into CMS in a coming release. The following pictures are sample screenshots illustrating CMS and Entriview functionality and variety of third-party applications:

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Compass by Calix

Compass is a suite of software applications that enables CSPs to accelerate their business transformation. Each Compass application is designed to directly affect key business and market functions within CSPs, and can help them to expand revenue, increase customer satisfaction, optimize network resources, and reduce the cost of delivering services. Compass applications are offered using a software-as-a-service model based on a low monthly service fee and no upfront hardware or licensing fees. Every application is hosted in a cloud-based data center, alleviating CSPs' need to deploy, operate, or maintain physical hardware for Compass applications.

Flow Analyze offers a tool that provides an in-depth view of the traffic in CSP networks on a real-time basis. This view of traffic is non-intrusive, and can be focused on a per-service, per-subscriber, per-location, and per-interface basis-both in real time and as a historical report. As a result, service providers can see what actually happened when a problem occurred in their network at any time. By monitoring subscriber usage data, as well as tracking universal subscriber identification mapping, Flow Analyze provides a low cost solution for generating monthly-usage billing reports and diagnosing subscriber complaints.

Consumer Connect enables service providers to remotely activate new broadband devices and manage home networks, creating new revenue sources, improved customer satisfaction, and reduced service delivery costs.

Consumer Connect provides TR-069 ACS device management via a cloud-based software-as-a-service solution hosted by Calix, and offers such features as auto-discovery of intelligent devices within the home, auto-support of new TR-069 devices, bulk gateway maintenance, and DHCP server functionality as well as the ability to push service profiles to gateways. Consumer Connect also shares a common customer ID with Flow Analyze, allowing the applications to work closely together. Consumer connect can also provide remote customer LAN diagnostics as well as LAN visibility to help track consumer electronics trends.

The following picture is a sample screenshot and illustration of Flow Analyze and Consumer Connect functionality:

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Research and Development

Continued investment in research and development is critical to our business. Our research and development team is composed of engineers with expertise in hardware, software and optics. Our team of engineers is primarily based in our Petaluma, California headquarters, the Minneapolis, Minnesota facility, the Santa Barbara and San Jose, California facilities, and the Nanjing, China facility, with additional engineers located in Acton, Massachusetts. We also outsource a portion of our software development to a team of software engineers based in Shenyang, China. Our research and development team is responsible for designing, developing and enhancing our hardware and software platforms, performing product and quality assurance testing and ensuring the compatibility of our products with third-party hardware and software products. We have made significant investments in our Unified Access portfolio. We intend to continue to dedicate significant resources to research and development and to develop new product capabilities to support the performance, scalability and management of our Unified Access portfolio. For the years ended 2012, 2011, and 2010, our research and development expenses totaled \$66.7 million, \$67.7 million, and \$55.4 million, respectively.

Manufacturing

We work closely with third parties to manufacture and deliver our products. Our manufacturing organization consists primarily of supply chain managers, new product introduction personnel and test engineers. We outsource our manufacturing and order fulfillment and tightly integrate our supply chain management and new product introduction activities. We primarily utilize Flextronics International Ltd. ("Flextronics"), as our contract manufacturer. Our relationship with Flextronics allows us to conserve working capital, reduce product costs and minimize delivery lead times while maintaining high product quality. Generally, new product introduction occurs in Flextronics' facilities in Milpitas, California. Once product manufacturing quality and yields reach a satisfactory level, volume production and testing of circuit board assemblies, chassis and fan trays occur in Shanghai, China. Final system and cabinet assembly and testing are performed in Flextronics' facilities in Guadalajara, Mexico. Order fulfillment is performed by Pegasus Logistics Group in Texas. We also evaluate and utilize other vendors for various portions of our supply chain from time to time, including order fulfillment of our circuit boards. This model allows us to operate with low inventory levels while maintaining the ability to scale quickly to handle increased order volume.

Product reliability is essential for our customers, who place a premium on continuity of service for their subscribers. We perform rigorous in-house quality control testing to help ensure the reliability of our systems. Our internal manufacturing organization designs, develops and implements complex test processes to help ensure the quality and reliability of our products.

The manufacturing of our products by contract manufacturers is a complex process and involves certain risks, including the potential absence of adequate capacity, the unavailability of or interruptions in access to certain process technologies, and the reduced control over delivery schedules, manufacturing yields, quality and costs. As such, we may experience production problems or manufacturing delays in the future. Additionally, shortages in components that we use in our systems are possible and our ability to predict the availability of such components, some sourced from a single or limited source of supply, may be limited. Our systems include some components that are proprietary in nature and only available from a single source, as well as some components that are generally available from a number of suppliers. The lead times associated with certain components are lengthy and preclude rapid changes in product specifications or delivery schedules. In some cases, significant time would be required to establish relationships with alternate suppliers or providers of proprietary components. We generally do not have long-term contracts with component providers that guarantee the supply of components or their manufacturing services. If we experience any difficulties in managing relationships with our contract manufacturers, or any interruption in our own operations or our contract manufacturers operations or if a supplier is unable to meet our needs, we may encounter manufacturing delays that could impede our ability to meet our customers' requirements and harm our business, operating results and financial condition. Our ability to deliver products in a timely manner to our customers would be adversely impacted materially if we needed to qualify replacements for any of the components used in our systems. To date, we have not experienced significant delays or material unanticipated costs resulting from the use of our contract manufacturers. Additionally, we believe that our current contract manufacturers and our facilities can accommodate an increase in capacity for production sufficient for the foreseeable future.

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Seasonality

Fluctuations in our revenue occur due to many factors, including the varying budget cycles for our customers and seasonal buying patterns of our customers. More specifically, our customers tend to spend less in the first fiscal quarter as they are finalizing their annual budgets. Customer spending then increases in subsequent quarters for the remainder of the year and typically ends with a strong fourth quarter.

Intellectual Property

Our success depends upon our ability to protect our core technology and intellectual property. To accomplish this, we rely on a combination of intellectual property rights, including patents, trade secrets, copyrights and trademarks, as well as customary contractual protections. In addition, we generally control access to and the use of our proprietary technology and other confidential information. This protection is accomplished through a combination of internal and external controls, including contractual protections with employees, contractors, customers and partners, and through a combination of U.S. and international intellectual property laws.

As of December 31, 2012, we held 72 U.S. patents and had 36 pending U.S. patent applications. Two of the U.S. patents are also covered by granted international patents, one in five countries and the other in three countries. As of December 31, 2012, we had no pending international patent applications. Patents generally have a term of twenty years from filing. As our patent portfolio has been built over time, the remaining terms on the individual patents vary. Information pertaining to our patents such as filing dates and terms is available free-of-charge at the United States Patent and Trademark Office website at www.uspto.gov.

We rely on intellectual property laws, as well as nondisclosure agreements, licensing arrangements and confidentially provisions, to establish and protect our proprietary rights. U.S. patent, copyright and trade secret laws afford us only limited protection, and the laws of some foreign countries do not protect proprietary rights to the same extent. Our pending patent applications may not result in issued patents, and the issued patents may not be enforceable. Any infringement of proprietary rights could result in significant litigation costs. Further, any failure by us to adequately protect our proprietary rights could result in competitors offering similar products, resulting in the loss of our competitive advantage and decreased sales.

We believe that the frequency of assertions of patent infringement is increasing as patent holders, including entities that are not in our industry and others who purchase patents as an investment or to monetize such rights by obtaining royalties, use such actions as a competitive tactic as well as a source of additional revenue. Any claim of infringement from a third party, even those without merit, could cause us to incur substantial costs defending against such claims and could distract our management from running our business. Furthermore, a party making such a claim, if successful, could secure a judgment that requires us to pay substantial damages. A judgment could also include an injunction or other court order that could prevent us from selling our systems. In addition, we might be required to seek a license for the use of such intellectual property, which may not be available on commercially reasonable terms or at all. Alternatively, we may be required to develop non-infringing technology, which would require significant effort and expense and may ultimately not be successful.

Competition

The communications access equipment market is highly competitive. Competition in this market is based on any one or a combination of the following factors:

- price;
- functionality;
- existing business and customer relationships;
- the ability of products and services to meet customers' immediate and future network requirements;
- product quality;
- installation capability;
- service and support;
- scalability; and
- manufacturing capability.

We compete with a number of companies within markets that we serve and we anticipate that competition will intensify. ADTRAN, Inc., enjoys strong supplier relationships with the largest U.S. ILECs, commands the leading

market share position in DSL access multiplexers, and has a broad international business. Other established suppliers with which we compete include Alcatel- Lucent S.A., Ciena Corporation, Huawei Technologies Co., Ltd., Tellabs, Inc., and ZTE Corporation. There are also a number of smaller companies with which we compete in various geographic or vertical markets, including Zhone Technologies, Inc. While most of these smaller competitors lack broad national scale and product portfolios, they can offer strong competition on a deal-by-deal basis. Competition in the communications access equipment market is dominated by a small number of large, multi-national corporations. Many of our competitors have substantially greater name recognition and technical, financial and marketing resources, and greater manufacturing capacity, as well as better established relationships with CSPs, than we do. Many of our competitors have greater resources to develop products or pursue acquisitions, and more experience in developing or acquiring new products and technologies and in creating market awareness for these products and technologies. In addition, a number of our competitors have the financial resources to offer competitive products at below market pricing levels that could prevent us from competing effectively. Further, a number of our competitors have built long-standing relationships with some of our prospective customers and provide financing to customers and could, therefore, have an advantage in selling products to those customers.

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Government Funding Initiatives

Many of our customers fund deployment of and improvements to telecommunications network infrastructure using government funds. In the United States, CSPs are required under the Federal Communications Commission's rules to contribute a percentage of their revenues to the federal Universal Service Fund. In early October 2011, the chairman of the FCC outlined a plan to transform the Universal Service Fund, an \$8 billion fund that is paid for by the nation's telephone customers and used to subsidize basic telephone service in rural areas, into one that will help expand broadband Internet service to 18 million Americans who lack high-speed access. These funds, now governed by a new set of rules now call the Connect America Fund ("CAF"), are distributed as subsidies to CSPs serving rural subscribers that are expensive to reach as well as to low-income consumers, schools and libraries, and rural health care facilities. RUS administers funds through a separate U.S. government initiative to promote the development of telecommunications infrastructure in rural areas through loans, loan guarantees and grants. Some of our U.S. customers have been awarded RUS loans, and we have provided the network equipment for such projects.

Employees

As of December 31, 2012, we employed a total of 714 full-time employees. Most of our employees are located in North America. None of our employees is represented by a labor union with respect to his or her employment with us. We have not experienced any work stoppages, and we consider our relations with our employees to be good.

Corporate Information

Calix, a Delaware corporation, was founded in August 1999. Our principal executive offices are located at 1035 N. McDowell Boulevard, Petaluma, California 94954, and our telephone number is (707) 766-3000. Our website address is www.calix.com. We do not incorporate the information on or accessible through our website into this Form 10-K, and you should not consider any information on, or that can be accessed through, our website as part of this Form 10-K. Calix®, the Calix logo design, B6™, C7®, E5™, E7™ and other trademarks or service marks of Calix appearing in this report on Form 10-K are the property of Calix. Trade names, trademarks and service marks of other companies appearing in this report on Form 10-K are the property of the respective holders. Calix is subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934 ("Exchange Act") and, in accordance therewith, files periodic reports, proxy statements and other information with the Securities and Exchange Commission ("SEC"). Such periodic reports, proxy statements and other information is available for inspection and copying at the SEC's Public Reference Room at 100 F Street, NE., Washington, DC 20549 or may be obtained by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a Web site at <http://www.sec.gov> that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC. Calix posts on the Investor Relations page of its Web site, www.calix.com, a link to its filings with the SEC, which are posted as soon as reasonably practical after they are filed electronically with the SEC.

ITEM 1A. Risk Factors

We have identified the following additional risks and uncertainties that may affect our business, financial condition and/or results of operations. Investors should carefully consider the risks described below, together with the other information set forth in this Annual Report on Form 10-K, before making any investment decision. The risks described below are not the only ones we face. Additional risks not currently known to us or that we currently believe are immaterial may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and investors may lose all or part of their investment.

Risks Related to Our Business and Industry

Our markets are rapidly changing, which make it difficult to predict our future revenue and plan our expenses appropriately.

We compete in markets characterized by rapid technological change, changing needs of communications service providers, evolving industry standards and frequent introductions of new products and services. In addition, we likely will be required to reposition our product and service offerings and introduce new products and services as we encounter rapidly changing CSP requirements and increasing competitive pressures. We may not be successful in doing so in a timely and responsive manner, or at all. Also, softness in demand across any of our customer markets,

including due to macro-economic conditions beyond our control or uncertainties associated with the implementation of regulatory reforms, could lead to unexpected slowdown in capital expenditures by service providers, such as what occurred in the second quarter of 2012. As a result, it is difficult to forecast our future revenues and plan our operating expenses appropriately, which also makes it difficult to predict our future operating results.

We have a history of losses, and we may not be able to generate positive operating income and cash flows in the future.

We have experienced net losses in each year of our existence. For the years ended December 31, 2012, December 31, 2011, and December 31, 2010, we incurred net losses of \$28.3 million, \$52.6 million, and \$18.6 million, respectively. As of December 31, 2012, we had an accumulated deficit of \$492.5 million.

We expect to continue to incur significant expenses for research and development, sales and marketing, customer support and general and administrative functions as we expand our operations. Given our growth rate and the intense competitive pressures we face, we may be unable to control our operating costs.

We cannot guarantee that we will achieve profitability in the future. We will have to generate and sustain significant and consistent increased revenue, while continuing to control our expenses, in order to achieve and then maintain profitability. We may also incur significant losses in the future for a number of reasons, including the risks discussed in this "Risk Factors" section and factors that we cannot anticipate.

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If we are unable to generate positive operating income and cash flow from operations, our liquidity, results of operations and financial condition will be adversely affected.

Fluctuations in our quarterly and annual operating results may make it difficult to predict our future performance, which could cause our operating results to fall below investor or analyst expectations, which could adversely affect the trading price of our stock.

A number of factors, many of which are outside of our control, may cause or contribute to significant fluctuations in our quarterly and annual operating results. These fluctuations may make financial planning and forecasting difficult. Comparing our operating results on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance. If our revenue or operating results fall below the expectations of investors or securities analysts, or below any guidance we may provide to the market, the price of our common stock would likely decline. Moreover, we may experience delays in recognizing revenue under applicable revenue recognition rules, particularly from government-funded contracts, such as those funded by RUS. The extent of these delays and their impact on our revenues can fluctuate over a given time period depending on the number and size of purchase orders under these contracts during such time period. In addition, unanticipated decreases in our available liquidity due to fluctuating operating results could limit our growth and delay implementation of our expansion plans. In addition to the other risk factors listed in this “Risk Factors” section, factors that may contribute to the variability of our operating results include:

- our ability to predict our revenue and plan our expenses appropriately;
- the capital spending patterns of CSPs and any decrease or delay in capital spending by CSPs due to macro-economic conditions, regulatory implementation or uncertainties, or other reasons;
- the impact of government-sponsored programs on our customers;
- intense competition;
- our ability to develop new products or enhancements that support technological advances and meet changing CSP requirements;
- our ability to achieve market acceptance of our products and CSPs’ willingness to deploy our new products;
- the concentration of our customer base;
- the length and unpredictability of our sales cycles;
- our focus on CSPs with limited revenue potential;
- our lack of long-term, committed-volume purchase contracts with our customers;
- our ability to increase our sales to larger North American as well as international CSPs;
- our exposure to the credit risks of our customers;
- fluctuations in our gross margin;
- the interoperability of our products with CSP networks;
- our dependence on sole and limited source suppliers;
- our ability to manage our relationships with our contract manufacturers;
- our ability to forecast our manufacturing requirements and manage our inventory;
- our products’ compliance with industry standards;
- our ability to expand our international operations;
- our ability to protect our intellectual property and the cost of doing so;
- the quality of our products, including any undetected hardware errors or bugs in our software;
- our ability to estimate future warranty obligations due to product failure rates;
- our ability to obtain necessary third-party technology licenses;
- any obligation to issue performance bonds to satisfy requirements under RUS contracts;
- the attraction and retention of qualified employees and key personnel; and
- our ability to maintain proper and effective internal controls.

Our business is dependent on the capital spending patterns of CSPs, and any decrease or delay in capital spending by CSPs, in response to economic conditions, uncertainties associated with the implementation of regulatory reforms, or otherwise, would reduce our revenues and harm our business.

Demand for our products depends on the magnitude and timing of capital spending by CSPs as they construct, expand, upgrade and maintain their access networks. The recent economic downturn has contributed to a slowdown in telecommunications industry spending, including in the specific geographies and markets in which we operate. In response to reduced consumer spending, challenging capital markets or declining liquidity trends, capital spending for network infrastructure projects of CSPs could be delayed or canceled. In addition, capital spending is cyclical in our industry and sporadic among individual CSPs, and can change on short notice. As a result, we may not have visibility into changes in spending behavior until nearly the end of a given quarter.

CSP spending on network construction, maintenance, expansion and upgrades is also affected by reductions in their budgets, delays in their purchasing cycles, access to external capital, e.g., government grants and loan programs or the capital markets, and seasonality and capital allocation decisions.

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Many factors affecting our results of operations are beyond our control, particularly in the case of large CSP orders and network infrastructure deployments involving multiple vendors and technologies where the achievement of certain thresholds for acceptance is subject to the readiness and performance of the customer or other providers, and changes in customer requirements or installation plans. Further, CSPs may not pursue infrastructure upgrades that require our access systems and software. Infrastructure improvements may be delayed or prevented by a variety of factors including cost, regulatory obstacles (including uncertainties associated with the implementation of regulatory reforms), mergers, lack of consumer demand for advanced communications services and alternative approaches to service delivery. Reductions in capital expenditures by CSPs may slow our rate of revenue growth. As a consequence, our results for a particular period may be difficult to predict, and our prior results are not necessarily indicative of results likely in future periods.

Government-sponsored programs could impact the timing and buying patterns of CSPs, which may cause fluctuations in our operating results.

Many of our customers are Independent Operating Companies ("IOCs"), which have revenues that are particularly dependent upon interstate and intrastate access charges, and federal and state subsidies. The Federal Communications Commission ("FCC"), and some states are considering changes to such payments and subsidies, and these changes could reduce IOC revenues. Furthermore, many IOCs use or expect to use, government-supported loan programs or grants, such as RUS loans and grants to finance capital spending. Changes to these programs could reduce the ability of IOCs to access capital and thus reduce our revenue opportunities.

Many of our customers were awarded grants or loans under government stimulus programs such as the Broadband Stimulus programs under the American Recovery and Reinvestment Act of 2009 and have purchased and will continue to purchase products from us or other suppliers while such programs and funding remain in place. However, customers may substantially curtail future purchases of products as ARRA funding winds down or because all purchases have been completed. The timetable for completion of funded projects varies between the two agencies administering the awards. Projects funded under the Broadband Technology Opportunities Program, which is administered by the National Telecommunications and Information Administration, must be completed by September 30, 2013. Projects funded under the Broadband Initiatives Program, which is administered by the Rural Utilities Service, must be completed by June 30, 2015.

We have experienced continued delays in purchasing commitments from our customers who have been awarded Broadband Stimulus funds, which have negatively impacted our operating results and additional delays could continue to adversely impact our operating results. In addition, the revenue recognition guidelines related to the sales of our access systems to CSPs who have received Broadband Stimulus funds may create uncertainties around the timing of our revenue, which could harm our financial results. In addition, any changes in government regulations and subsidies could cause our customers to change their purchasing decisions, which could have an adverse effect on our operating results and financial condition.

We face intense competition that could reduce our revenue and adversely affect our financial results.

The market for our products is highly competitive, and we expect competition from both established and new companies to increase. Our competitors include companies such as ADTRAN, Inc., Alcatel-Lucent S.A., Ciena Corporation, Huawei Technologies Co., Ltd., Tellabs, Inc. and ZTE Corporation.

Our ability to compete successfully depends on a number of factors, including:

- the successful development of new products;
- our ability to anticipate CSP and market requirements and changes in technology and industry standards;
- our ability to differentiate our products from our competitors' offerings based on performance, cost-effectiveness or other factors;
- our ongoing ability to successfully integrate acquired product lines and customer bases into our business;
- our ability to gain customer acceptance of our products; and
- our ability to market and sell our products.

The broadband access equipment market has undergone consolidation in recent years, as participants have merged, made acquisitions or entered into partnerships or other strategic relationships with one another to offer more comprehensive solutions than they individually had offered. Examples include Ciena Corporation's acquisition of

Nortel's Metro Ethernet Networks business in March 2010, Enablece Technologies, Inc.'s acquisition of Teledata Networks, Ltd. in June 2010, our acquisitions of Occam in February 2011 and of Ericsson's fiber access assets in November 2012, and Adtran's acquisition of Nokia Siemens' broadband access line business in May 2012. We expect this trend to continue as companies attempt to strengthen or maintain their market positions in an evolving industry. Many of our current or potential competitors have longer operating histories, greater name recognition, larger customer bases and significantly greater financial, technical, sales, marketing and other resources than we do and are better positioned to acquire and offer complementary products and services technologies. Many of our competitors have broader product lines and can offer bundled solutions, which may appeal to certain customers. Our competitors may also invest additional resources in developing more compelling product offerings. Potential customers may also prefer to purchase from their existing suppliers rather than a new supplier, regardless of product performance or features, because the products that we and our competitors offer require a substantial investment of time and funds to install.

Some of our competitors may offer substantial discounts or rebates to win new customers. If we are forced to reduce prices in order to secure customers, we may be unable to sustain gross margins at desired levels or achieve profitability. Competitive pressures could result in increased pricing pressure, reduced profit margins, increased sales and marketing expenses and failure to increase, or the loss of, market share, any of which could reduce our revenue and adversely affect our financial results.

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Product development is costly and if we fail to develop new products or enhancements that meet changing CSP requirements, we could experience lower sales.

Our market is characterized by rapid technological advances, frequent new product introductions, evolving industry standards and unanticipated changes in subscriber requirements. Our future success will depend significantly on our ability to anticipate and adapt to such changes, and to offer, on a timely and cost-effective basis, products and features that meet changing CSP demands and industry standards.

We intend to continue making significant investments in developing new products and enhancing the functionality of our existing products. Developing our products is expensive, complex and involves uncertainties. We may not have sufficient resources to successfully manage lengthy product development cycles. For the years ended December 31, 2012, 2011 and 2010, our research and development expenses were \$66.7 million, or 20% of our revenue, \$67.7 million, or 20% of our revenue, and \$55.4 million, or 19% of our revenue, respectively. We believe that we must continue to dedicate a significant amount of resources to our research and development efforts to maintain our competitive position. These investments may take several years to generate positive returns, if ever. In addition, we may experience design, manufacturing, marketing and other difficulties that could delay or prevent the development, introduction or marketing of new products and enhancements. If we fail to meet our development targets, demand for our products will decline.

In addition, the introduction of new or enhanced products also requires that we manage the transition from older products to these new or enhanced products in order to minimize disruption in customer ordering patterns, fulfill ongoing customer commitments and ensure that adequate supplies of new products are available for delivery to meet anticipated customer demand. If we fail to maintain compatibility with other software or equipment found in our customers' existing and planned networks, we may face substantially reduced demand for our products, which would reduce our revenue opportunities and market share. Moreover, as customers complete infrastructure deployments, they may require greater levels of service and support than we have provided in the past. We may not be able to provide products, services and support to compete effectively for these market opportunities. If we are unable to anticipate and develop new products or enhancements to our existing products on a timely and cost-effective basis, we could experience lower sales, which would harm our business.

Our new products are early in their life cycles and are subject to uncertain market demand. If our customers are unwilling to install our products or deploy new services or we are unable to achieve market acceptance of our new products, our business and financial results will be harmed.

Our new products are early in their life cycles and are subject to uncertain market demand. They also may face obstacles in manufacturing, deployment and competitive response. Potential customers may choose not to invest the additional capital required for initial system deployment. In addition, demand for our products is dependent on the success of our customers in deploying and selling services to their subscribers. Our products support a variety of advanced broadband services, such as high-speed Internet, Internet protocol television, mobile broadband, high-definition video and online gaming, and basic voice and data services. If subscriber demand for such services does not grow as expected or declines, or if our customers are unable or unwilling to deploy and market these services, demand for our products may decrease or fail to grow at rates we anticipate.

Our customer base is concentrated, and there are a limited number of potential customers for our products. The loss of any of our key customers, a decrease in purchases by our key customers or our inability to grow our customer base would adversely impact our revenues.

Historically, a large portion of our sales has been to a limited number of customers. For example, for the years ended December 31, 2012, 2011 and 2010, CenturyLink accounted for 21%, 20% and 29%, respectively, of our revenue. However, we cannot anticipate the level of CenturyLink's purchases in the future. The ongoing integration process at CenturyLink following its 2011 merger with Qwest Communications continues to create uncertainty as to whether we will remain a preferred network equipment vendor for the combined organization.

We anticipate that a large portion of our revenues will continue to depend on sales to a limited number of customers. In addition, some larger customers may demand discounts and rebates or desire to purchase their access systems and software from multiple providers. As a result of these factors, our future revenue opportunities may be limited and our margins could be reduced, and our profitability may be adversely impacted. The loss of, or reduction in, orders from

any key customer would significantly reduce our revenues and harm our business.

Furthermore, in recent years, the CSP market has undergone substantial consolidation. Industry consolidation generally has negative implications for equipment suppliers, including a reduction in the number of potential customers, a decrease in aggregate capital spending, and greater pricing leverage on the part of CSPs over equipment suppliers. Continued consolidation of the CSP industry and among the Incumbent Local Exchange Carrier ("ILEC") and IOC customers, who represent a large part of our business, could make it more difficult for us to grow our customer base, increase sales of our products and maintain adequate gross margins.

Our sales cycles can be long and unpredictable, and our sales efforts require considerable time and expense. As a result, our sales are difficult to predict and may vary substantially from quarter to quarter, which may cause our operating results to fluctuate significantly.

The timing of our revenues is difficult to predict. Our sales efforts often involve educating CSPs about the use and benefits of our products. CSPs typically undertake a significant evaluation process, which frequently involves not only our products but also those of our competitors and results in a lengthy sales cycle. We spend substantial time, effort and money in our sales efforts without any assurance that our efforts will produce any sales. In addition, product purchases are frequently subject to budget constraints, multiple approvals and unplanned administrative, processing and other delays. If sales expected from a specific customer for a particular quarter are not realized in that quarter or at all, we may not achieve our revenue forecasts and our financial results would be adversely affected.

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Our focus on CSPs with relatively small networks limits our revenues from sales to any one customer and makes our future operating results difficult to predict.

We currently focus a large portion of our sales efforts on IOCs, cable multiple system operators and selected international CSPs. In general, our current and potential customers generally operate small networks with limited capital expenditure budgets. Accordingly, we believe the potential revenues from the sale of our products to any one of these customers is limited. As a result, we must identify and sell products to new customers each quarter to continue to increase our sales. In addition, the spending patterns of many of our customers are characterized by small and sporadic purchases. As a consequence, we have limited backlog and will likely continue to have limited visibility into future operating results.

We do not have long-term, committed-volume purchase contracts with our customers, and therefore have no guarantee of future revenues from any customer.

Our sales are made predominantly via purchase orders, and typically we have not entered into long-term, committed-volume purchase contracts with our customers, including our key customers, which account for a material portion of our revenues. As a result, any of our customers may cease to purchase our products at any time. In addition, our customers may attempt to renegotiate terms of sale, including price and quantity. If any of our key customers stop purchasing our access systems and software for any reason, our business and results of operations would be harmed. Our efforts to increase our sales to larger North American as well as international CSPs, including MSOs, may be unsuccessful.

Our sales and marketing efforts have been focused on CSPs, including cable MSOs, in North America. A part of our long-term strategy is to increase sales to larger North American as well as international CSPs, including MSOs. We will be required to devote substantial technical, marketing and sales resources to the pursuit of these larger CSPs, who have lengthy equipment qualification and sales cycles, without any assurance of generating sales. In particular, sales to these larger CSPs may require us to upgrade our products to meet more stringent performance criteria, develop new customer-specific features or adapt our product to meet international standards. If we are unable to successfully increase our sales to larger CSPs, our operating results and long-term growth may be negatively impacted.

We are exposed to the credit risks of our customers, and if we have inadequately assessed their credit we may have more exposure to accounts receivable risk than we anticipate. Failure to collect our accounts receivable in amounts that we anticipate could adversely affect our operating results and financial condition.

In the course of our sales to customers, we may encounter difficulty collecting accounts receivable and could be exposed to risks associated with uncollectible accounts receivable. We maintain an allowance for doubtful accounts for estimated losses resulting from the inability or unwillingness of our customers to make required payments. However, these allowances are based on our judgment and a variety of factors about which our judgment may be wrong or that may change.

We perform credit evaluations of our customers' financial condition. However, our evaluation of the creditworthiness of customers may not be accurate if they do not provide us with accurate financial information, or if their situation changes after we evaluate their credit. While we attempt to monitor these situations carefully and attempt to adjust our allowances for doubtful accounts as appropriate, and take appropriate measures to collect accounts receivable balances, we have written down accounts receivable and written off doubtful accounts in prior periods and may be unable to avoid additional write-downs or write-offs of doubtful accounts in the future. Such write-downs or write-offs could negatively affect our operating results for the period in which they occur, and could harm our operating results.

Our gross margin may fluctuate over time and our current level of product gross margins may not be sustainable. Our current level of product gross margins may not be sustainable and may be adversely affected by numerous factors, including:

- changes in customer, geographic or product mix, including the mix of configurations within each product group;
- increased price competition, including the impact of customer discounts and rebates;
- our inability to reduce and control product costs;
 - changes in component pricing, changes in contract manufacturer rates, or charges incurred due to inventory holding periods if parts ordering does not correctly anticipate product demand;

- introduction of new products;
- changes in shipment volume;
- changes in distribution channels;
- increased warranty costs;
- excess and obsolete inventory and inventory holding charges;
- expediting costs incurred to meet customer delivery requirements; and
- liquidated damages relating to customer contractual terms.

Our products must interoperate with many software applications and hardware products found in our customers' networks. If we are unable to ensure that our products interoperate properly, our business would be harmed.

Our products must interoperate with our customers' existing and planned networks, which often have varied and complex specifications, utilize multiple protocol standards, software applications and products from multiple vendors and contain multiple generations of products that have been added over time. As a result, we must continually ensure that our products interoperate properly with these existing and planned networks. To meet these requirements, we must undertake development efforts that require substantial capital investment and

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employee resources. We may not accomplish these development efforts quickly or cost-effectively, if at all. If we fail to maintain compatibility with other software or equipment found in our customers' existing and planned networks, we may face substantially reduced demand for our products, which would reduce our revenue opportunities and market share.

We have entered into interoperability arrangements with a number of equipment and software vendors for the use or integration of their technology with our products. These arrangements give us access to, and enable interoperability with, various products that we do not otherwise offer. If these relationships fail, we may have to devote substantially more resources to the development of alternative products and processes, and our efforts may not be as effective as the combined solutions under our current arrangements. In some cases, these other vendors are either companies that we compete with directly, or companies that have extensive relationships with our existing and potential customers and may have influence over the purchasing decisions of those customers. Some of our competitors have stronger relationships with some of our existing and potential other vendors and, as a result, our ability to have successful interoperability arrangements with these companies may be harmed. Our failure to establish or maintain key relationships with third-party equipment and software vendors may harm our ability to successfully sell and market our products.

As we do not have manufacturing capabilities, we depend upon a small number of outside contract manufacturers and we do not have supply contracts with these manufacturers. Our operations could be disrupted if we encounter problems with these contract manufacturers.

We do not have internal manufacturing capabilities, and rely upon a small number of contract manufacturers to build our products. In particular, we rely on Flextronics for the manufacture of most of our products. Our reliance on a small number of contract manufacturers makes us vulnerable to possible capacity constraints and reduced control over component availability, delivery schedules, manufacturing yields and costs.

We do not have supply contracts with Flextronics or our other manufacturers. Consequently, these manufacturers are not obligated to supply products to us for any specific period, in any specific quantity or at any certain price. In addition, we have limited control over our contract manufacturers' quality systems and controls, and therefore may not be able to ensure levels of quality manufacture suitable for our customers.

The revenues that Flextronics generates from our orders represent a relatively small percentage of Flextronics' overall revenues. As a result, fulfilling our orders may not be considered a priority in the event Flextronics is constrained in its ability to fulfill all of its customer obligations in a timely manner. In addition, a substantial part of our manufacturing is done in Flextronics facilities that are located outside of the United States. We believe that the location of these facilities outside of the United States increases supply risk, including the risk of supply interruptions or reductions in manufacturing quality or controls.

If Flextronics or any of our other contract manufacturers were unable or unwilling to continue manufacturing our products in required volumes and at high quality levels, we would have to identify, qualify and select acceptable alternative contract manufacturers. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our production requirements at commercially reasonable prices and quality. Any significant interruption in manufacturing would require us to reduce our supply of products to our customers, which in turn would reduce our revenues and harm our relationships with our customers.

We depend on sole source and limited source suppliers for key components and products. If we are unable to source these components on a timely basis, we will not be able to deliver our products to our customers.

We depend on sole source and limited source suppliers for key components of our products. For example, certain of our application-specific integrated circuits processors and resistor networks are purchased from sole source suppliers. We may from time to time enter into original equipment manufacturer ("OEM") or original design manufacturer ("ODM") agreements to manufacture and/or design certain products in order to enable us to offer products into key markets on an accelerated basis. For example, a third party assisted in the design of and currently manufactures our E5-100 platform family.

Any of the sole source and limited source suppliers, OEMs and ODMs upon whom we rely could stop producing our components or products, cease operations or be acquired by, or enter into exclusive arrangements with, our competitors. We generally purchase our products through purchase orders and our purchase volumes are currently too

low for us to be considered a priority customer by most of our suppliers. As a result, most of these suppliers could stop selling to us at commercially reasonable prices, or at all. Any such interruption or delay may force us to seek similar components or products from alternative sources, which may not be available. Switching suppliers, OEMs or ODMs may require that we redesign our products to accommodate new components, and may potentially require us to re-qualify our products with our customers, which would be costly and time-consuming. Any interruption in the supply of sole source or limited source components for our products would adversely affect our ability to meet scheduled product deliveries to our customers, could result in lost revenue or higher expenses and would harm our business.

If we fail to forecast our manufacturing requirements accurately or fail to properly manage our inventory with our contract manufacturers, we could incur additional costs, experience manufacturing delays and lose revenue.

We bear inventory risk under our contract manufacturing arrangements. Lead times for the materials and components that we order through our contract manufacturers vary significantly and depend on numerous factors, including the specific supplier, contract terms and market demand for a component at a given time. Lead times for certain key materials and components incorporated into our products are currently lengthy, requiring us or our contract manufacturers to order materials and components several months in advance of manufacture.

If we overestimate our production requirements, we or our contract manufacturers may purchase excess components and build excess inventory. If our contract manufacturers, at our request, purchase excess components that are unique to our products or build excess products, we could be required to pay for these excess parts or products and their storage costs. Historically, we have reimbursed our primary contract manufacturers for a portion of inventory purchases when our inventory has been rendered obsolete, for example due to manufacturing and

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engineering change orders resulting from design changes manufacturing discontinuation of parts by our suppliers, or in cases where inventory levels greatly exceed projected demand. If we incur payments to our contract manufacturers associated with excess or obsolete inventory, this would have an adverse effect on our gross margins, financial condition and results of operations.

We have experienced unanticipated increases in demand from customers, which resulted in delayed shipments and variable shipping patterns. If we underestimate our product requirements, our contract manufacturers may have inadequate component inventory, which could interrupt manufacturing of our products and result in delays or cancellation of sales.

If we fail to comply with evolving industry standards, sales of our existing and future products would be adversely affected.

The markets for our products are characterized by a significant number of standards, both domestic and international, which are evolving as new technologies are developed and deployed. Our products must comply with these standards in order to be widely marketable. In some cases, we are compelled to obtain certifications or authorizations before our products can be introduced, marketed or sold in new markets or to customers that we have not historically served. For example, our ability to obtain OSMINE certification for our products will affect our ongoing ability to continue to sell our products to CenturyLink and other Tier 1 CSPs.

In addition, our ability to expand our international operations and create international market demand for our products may be limited by regulations or standards adopted by other countries that may require us to redesign our existing products or develop new products suitable for sale in those countries. Although we believe our products are currently in compliance with domestic and international standards and regulations in countries in which we currently sell, we may not be able to design our products to comply with evolving standards and regulations in the future. Accordingly, this ongoing evolution of standards may directly affect our ability to market or sell our products. Further, the cost of complying with the evolving standards and regulations, or the failure to obtain timely domestic or foreign regulatory approvals or certification such that we may not be able to sell our products where these standards or regulations apply, would result in lower revenues and lost market share.

We may be unable to successfully expand our international operations. In addition, we may be subject to a variety of international risks that could harm our business.

We currently generate most of our sales from customers in North America and have limited experience marketing, selling and supporting our products and services outside North America or managing the administrative aspects of a worldwide operation. While we are in the process of expanding our international operations, we may not be able to create or maintain international market demand for our products. In addition, as we expand our operations internationally, our support organization will face additional challenges including those associated with delivering support, training and documentation in languages other than English. If we invest substantial time and resources to expand our international operations and are unable to do so successfully and in a timely manner, our business, financial condition and results of operations will suffer.

In the course of expanding our international operations and operating overseas, we will be subject to a variety of risks, including:

- differing regulatory requirements, including tax laws, trade laws, labor regulations, tariffs, export quotas, custom duties or other trade restrictions;
- liability or damage to our reputation resulting from corruption or unethical business practices in some countries;
- fluctuation in currency exchange rates;
- longer collection periods and difficulties in collecting accounts receivable;
- greater difficulty supporting and localizing our products;
- different or unique competitive pressures as a result of, among other things, the presence of local equipment suppliers;
- challenges inherent in efficiently managing an increased number of employees over large geographic distances, including the need to implement appropriate systems, policies, compensation and benefits and compliance programs;
- limited or unfavorable intellectual property protection;
- risk of change in international political or economic conditions, terrorist attacks or acts of war; and
- restrictions on the repatriation of earnings.

We engage resellers, including Ericsson, to promote, sell, install and support our products to some customers in North America, and internationally. Their failure to do so or our inability to recruit or retain appropriate resellers may reduce our sales and thus harm our business.

We engage some value added resellers ("VARs"), who provide sales and support services for our products. In particular, we expect the non-exclusive reseller agreement entered into with Ericsson in 2012 to provide us with an extensive new global reseller channel. We compete with other telecommunications systems providers for our VARs' business and many of our VARs, including Ericsson, are free to market competing products. If Ericsson or any other VAR promotes a competitor's products to the detriment of our products or otherwise fails to market our products and services effectively, we could lose market share. In addition, the loss of a key VAR or the failure of VARs to provide adequate customer service could have a negative effect on customer satisfaction and could cause harm to our business. If we do not properly recruit and train VARs to sell, install and service our products, our business, financial condition and results of operations may suffer. Our use of VARs and other third party support partners, and the associated risks, are likely to increase as we expand sales outside of North America.

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We may have difficulty managing our growth, which could limit our ability to increase sales.

We have experienced significant growth in sales and operations in recent years. We expect to continue to expand our research and development, sales, marketing and support activities. Our historical growth has placed, and planned future growth is expected to continue to place, significant demands on our management, as well as our financial and operational resources, to:

- manage a larger organization;
- expand our manufacturing and distribution capacity;
- increase our sales and marketing efforts;
- broaden our customer support capabilities;
- implement appropriate operational and financial systems; and
- maintain effective financial disclosure controls and procedures.

If we cannot grow, or fail to manage our growth effectively, we may not be able to execute our business strategies and our business, financial condition and results of operations would be adversely affected.

We may not be able to protect our intellectual property, which could impair our ability to compete effectively.

We depend on certain proprietary technology for our success and ability to compete. As of December 31, 2012, we held 72 U.S. patents and had 36 pending U.S. patent applications. Two of the U.S. patents are also covered by granted international patents, one in five countries and the other in three countries. We currently have no pending international patent applications. We rely on intellectual property laws, as well as nondisclosure agreements, licensing arrangements and confidentiality provisions, to establish and protect our proprietary rights. U.S. patent, copyright and trade secret laws afford us only limited protection, and the laws of some foreign countries do not protect proprietary rights to the same extent. Our pending patent applications may not result in issued patents, and our issued patents may not be enforceable. Any infringement of our proprietary rights could result in significant litigation costs. Further, any failure by us to adequately protect our proprietary rights could result in our competitors offering similar products, resulting in the loss of our competitive advantage and decreased sales.

Despite our efforts to protect our proprietary rights, attempts may be made to copy or reverse engineer aspects of our products or to obtain and use information that we regard as proprietary. Accordingly, we may be unable to protect our proprietary rights against unauthorized third-party copying or use. Furthermore, policing the unauthorized use of our intellectual property would be difficult for us. Litigation may be necessary in the future to enforce our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. Litigation could result in substantial costs and diversion of resources and could harm our business.

We could become subject to litigation regarding intellectual property rights that could harm our business.

We may be subject to intellectual property infringement claims that are costly to defend and could limit our ability to use some technologies in the future. Third parties may assert patent, copyright, trademark or other intellectual property rights to technologies or rights that are important to our business. Such claims may involve non-practicing entities, patent holding companies or other adverse patent owners who have no relevant product revenue, and therefore our own issued and pending patents may provide little or no deterrence to suit from these entities.

We have received in the past and expect that in the future we may receive, particularly as a public company, communications from competitors and other companies alleging that we may be infringing their patents, trade secrets or other intellectual property rights and/or offering licenses to such intellectual property or threatening litigation. In addition, we have agreed, and may in the future agree, to indemnify our customers for any expenses or liabilities resulting from claimed infringements of patents, trademarks or copyrights of third parties. Any claims asserting that our products infringe, or may infringe on, the proprietary rights of third parties, with or without merit, could be time-consuming, resulting in costly litigation and diverting the efforts of our engineering teams and management. These claims could also result in product shipment delays or require us to modify our products or enter into royalty or licensing agreements. Such royalty or licensing agreements, if required, may not be available to us on acceptable terms, if at all.

The quality of our support and services offerings is important to our customers, and if we fail to continue to offer high quality support and services, we could lose customers, which would harm our business.

Once our products are deployed within our customers' networks, they depend on our support organization to resolve any issues relating to those products. A high level of support is critical for the successful marketing and sale of our products. If we do not effectively assist our customers in deploying our products, succeed in helping them quickly resolve post-deployment issues or provide effective ongoing support, it could adversely affect our ability to sell our products to existing customers and harm our reputation with potential new customers. As a result, our failure to maintain high quality support and services could result in the loss of customers, which would harm our business. Our products are highly technical and may contain undetected hardware errors or software bugs, which could harm our reputation and adversely affect our business.

Our products are highly technical and, when deployed, are critical to the operation of many networks. Our products have contained and may contain undetected errors, bugs or security vulnerabilities. Some errors in our products may only be discovered after a product has been installed and used by customers, and may in some cases only be detected under certain circumstances or after extended use. Any errors, bugs, defects or security vulnerabilities discovered in our products after commercial release could result in loss of revenues or delay in revenue recognition, loss of customers and increased service and warranty cost, any of which could adversely affect our business, operating results and financial condition. In addition, we could face claims for product liability, tort or breach of warranty. Our contracts with customers

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contain provisions relating to warranty disclaimers and liability limitations, which may not be upheld. Defending a lawsuit, regardless of its merit, is costly and may divert management's attention and adversely affect the market's perception of us and our products. In addition, if our business liability insurance coverage proves inadequate or future coverage is unavailable on acceptable terms or at all, our business, operating results and financial condition could be adversely impacted.

Our estimates regarding future warranty obligations may change due to product failure rates, shipment volumes, field service obligations and rework costs incurred in correcting product failures. If our estimates change, the liability for warranty obligations may be increased, impacting future cost of revenue.

Our products are highly complex, and our product development, manufacturing and integration testing may not be adequate to detect all defects, errors, failures and quality issues. Quality or performance problems for products covered under warranty could adversely impact our reputation and negatively affect our operating results and financial position. The development and production of new products with high complexity often involves problems with software, components and manufacturing methods. If significant warranty obligations arise due to reliability or quality issues arising from defects in software, faulty components or manufacturing methods, our operating results and financial position could be negatively impacted by:

- cost associated with fixing software or hardware defects;
- high service and warranty expenses;
- high inventory obsolescence expense;
- delays in collecting accounts receivable;
- payment of liquidated damages for performance failures; and
- declining sales to existing customers.

Our use of open source software could impose limitations on our ability to commercialize our products.

We incorporate open source software into our products. Although we closely monitor our use of open source software, the terms of many open source software licenses have not been interpreted by the courts, and there is a risk that such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to sell our products. In such event, we could be required to make our proprietary software generally available to third parties, including competitors, at no cost, to seek licenses from third parties in order to continue offering our products, to re-engineer our products or to discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis or at all, any of which could adversely affect our revenues and operating expenses.

If we are unable to obtain necessary third-party technology licenses, our ability to develop new products or product enhancements may be impaired.

While our current licenses of third-party technology generally relate to commercially available off-the-shelf technology, we may in the future be required to license additional technology from third parties to develop new products or product enhancements. These third-party licenses may be unavailable to us on commercially reasonable terms, if at all. Our inability to obtain necessary third-party licenses may force us to obtain substitute technology of lower quality or performance standards or at greater cost, any of which could harm the competitiveness of our products and result in lost revenues.

Our failure or the failure of our contract manufacturers to comply with applicable environmental and other legal regulations could adversely impact our results of operations.

The manufacture, assembly and testing of our products may require the use of hazardous materials that are subject to environmental, health and safety regulations, or materials subject to international laws restricting the use of conflict minerals. Our failure or the failure of our contract manufacturers to comply with any of these applicable requirements could result in regulatory penalties, legal claims or disruption of production. In addition, our failure or the failure of our contract manufacturers to properly manage the use, transportation, emission, discharge, storage, recycling or disposal of hazardous materials could subject us to increased costs or liabilities. Existing and future environmental regulations and other legal requirements may restrict our use of certain materials to manufacture, assemble and test products. Any of these consequences could adversely impact our results of operations by increasing our expenses and/or requiring us to alter our manufacturing processes.

Regulatory and physical impacts of climate change and other natural events may affect our customers and our contract manufacturers, resulting in adverse effects on our operating results.

As emissions of greenhouse gases continue to alter the composition of the atmosphere, affecting large-scale weather patterns and the global climate, any new regulation of greenhouse gas emissions may result in additional costs to our customers and our contract manufacturers. In addition, the physical impacts of climate change and other natural events, including changes in weather patterns, drought, rising ocean and temperature levels, earthquakes and tsunamis may impact our customers, suppliers, contract manufacturers, and our operations. These potential physical effects may adversely affect our revenues, costs, production and delivery schedules, and cause harm to our results of operations and financial condition.

We may pursue acquisitions, which involve a number of risks. If we are unable to address and resolve these risks successfully, such acquisitions could disrupt our business.

On November 2, 2012, we acquired Ericsson's fiber access assets. On February 22, 2011, we acquired Occam Networks. We may in the future acquire other businesses, products or technologies to expand our product offerings and capabilities, customer base and business. We have evaluated, and expect to continue to evaluate, a wide array of potential strategic transactions. We have limited experience making such acquisitions. Any of these transactions could be material to our financial condition and results of operations. The anticipated benefit of

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acquisitions may never materialize. In addition, the process of integrating acquired businesses, products or technologies may create unforeseen operating difficulties and expenditures. Some of the areas where we may face acquisition-related risks include:

- diversion of management time and potential business disruptions;
- expenses, distractions and potential claims resulting from acquisitions, whether or not they are completed;
- retaining and integrating employees from any businesses we may acquire, such as the 50 employees we acquired in connection with the Ericsson transaction;
- issuance of dilutive equity securities or incurrence of debt;
- integrating various accounting, management, information, human resource and other systems to permit effective management;
- incurring possible write-offs, impairment charges, contingent liabilities, amortization expense or write-offs of goodwill;
- difficulties integrating and supporting acquired products or technologies;
- unexpected capital expenditure requirements;
- insufficient revenues to offset increased expenses associated with the acquisition;
- opportunity costs associated with committing capital to such acquisitions; and
- acquisition-related litigation.

Foreign acquisitions would involve risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries. We may not be able to address these risks successfully, or at all, without incurring significant costs, delays or other operating problems. Our inability to address successfully such risks could disrupt our business.

Our obligation to issue performance bonds to satisfy requirements under RUS and ARRA-related contracts may negatively impact our working capital and financial condition.

We are sometimes required to issue performance bonds to satisfy requirements under our RUS and ARRA contracts. The performance bonds generally cover the full amount of the contract. Upon our performance under the contract and acceptance by the customer, the performance bond is released. The time period between issuing the performance bond and its release can be lengthy. We issue letters of credit under our existing credit facility to support a portion of these performance bonds. In the event we do not have sufficient capacity under our credit facility to support these bonds, we will have to provide certificates of deposit or other security, which could materially impact our working capital or limit our ability to satisfy such contract requirements. In the event that we are unable to issue such bonds, we may lose business and customers who purchase under RUS and ARRA contracts. In addition, if we exhaust our credit facility or working capital reserves in issuing such bonds, we may be required to eliminate or curtail expenditures to mitigate the impact on our working capital or financial condition.

Our use of and reliance upon development resources in China may expose us to unanticipated costs or liabilities.

We operate a wholly foreign owned enterprise, in Nanjing, China, where a dedicated team of engineers performs quality assurance, cost reduction and other engineering work. We also outsource a portion of our software development to a team of software engineers based in Shenyang, China. Our reliance upon development resources in China may not enable us to achieve meaningful product cost reductions or greater resource efficiency. Further, our development efforts and other operations in China involve significant risks, including:

- difficulty hiring and retaining appropriate engineering resources due to intense competition for such resources and resulting wage inflation;
- the knowledge transfer related to our technology and exposure to misappropriation of intellectual property or confidential information, including information that is proprietary to us, our customers and third parties;
- heightened exposure to changes in the economic, security and political conditions of China;
- fluctuation in currency exchange rates and tax risks associated with international operations; and
- development efforts that do not meet our requirements because of language, cultural or other differences associated with international operations, resulting in errors or delays.

Difficulties resulting from the factors above and other risks related to our operations in China could expose us to increased expense, impair our development efforts, harm our competitive position and damage our reputation. Our customers are subject to government regulation, and changes in current or future laws or regulations that negatively impact our customers could harm our business.

The FCC has jurisdiction over all of our U.S. customers. FCC regulatory policies that create disincentives for investment in access network infrastructure or impact the competitive environment in which our customers operate may harm our business. For example, future FCC regulation affecting providers of broadband Internet access services could impede the penetration of our customers into certain markets or affect the prices they may charge in such markets. Furthermore, many of our customers are subject to FCC rate regulation of interstate telecommunications services, and are recipients of Connect America Fund capital incentive payments, which are intended to subsidize broadband and telecommunications services in areas that are expensive to serve. In early October 2011, the chairman of the FCC outlined a plan to transform the Universal Service Fund, an \$8 billion fund that is paid for by the nation's telephone customers and was used to subsidize basic telephone service in rural areas, into one that will help expand broadband Internet service to 18 million Americans who lack high-speed access. Changes to these programs could change the ability of IOCs to access capital and reduce our revenue opportunities.

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In addition, many of our customers are subject to state regulation of intrastate telecommunications services, including rates for such services, and may also receive funding from state universal service funds. Changes in rate regulations or universal service funding rules, either at the federal or state level, could adversely affect our customers' revenues and capital spending plans. In addition, various international regulatory bodies have jurisdiction over certain of our non-U.S. customers. Changes in these domestic and international standards, laws and regulations, or judgments in favor of plaintiffs in lawsuits against CSPs based on changed standards, laws and regulations could adversely affect the development of broadband networks and services. This, in turn, could directly or indirectly adversely impact the communications industry in which our customers operate.

Many jurisdictions are also evaluating or implementing regulations relating to cyber security, privacy and data protection, which can affect the market and requirements for networking and communications equipment. To the extent our customers are adversely affected by laws or regulations regarding their business, products or service offerings, our business, financial condition and results of operations would suffer.

We may be subject to governmental export and import controls that could subject us to liability or impair our ability to compete in additional international markets.

Our products may be or become subject to U.S. export controls that will restrict our ability to export them outside of the free-trade zones covered by the North American Free Trade Agreement, Central American Free Trade Agreement and other treaties and laws. Therefore, future international shipments of our products may require export licenses or export license exceptions. In addition, the import laws of other countries may limit our ability to distribute our products, or our customers' ability to buy and use our products, in those countries. Changes in our products or changes in export and import regulations may create delays in the introduction of our products in international markets, prevent our customers with international operations from deploying our products or, in some cases, prevent the export or import of our products to certain countries altogether. Any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by such regulations, could negatively impact our ability to sell our products to existing or potential international customers.

If we lose any of our key personnel, or are unable to attract, train and retain qualified personnel, our ability to manage our business and continue our growth would be negatively impacted.

Our success depends, in large part, on the continued contributions of our key management, engineering, sales and marketing personnel, many of whom are highly skilled and would be difficult to replace. None of our senior management or key technical or sales personnel is bound by a written employment contract to remain with us for a specified period. In addition, we do not currently maintain key man life insurance covering our key personnel. If we lose the services of any key personnel, our business, financial condition and results of operations may suffer. Competition for skilled personnel, particularly those specializing in engineering and sales, is intense. We cannot be certain that we will be successful in attracting and retaining qualified personnel, or that newly hired personnel will function effectively, both individually and as a group. In particular, we must continue to expand our direct sales force, including hiring additional sales managers, to grow our customer base and increase sales. In addition, if we offer employment to personnel employed by competitors, we may become subject to claims of unfair hiring practices, and incur substantial costs in defending ourselves against these claims, regardless of their merits. If we are unable to effectively recruit, hire and utilize new employees, execution of our business strategy and our ability to react to changing market conditions may be impeded, and our business, financial condition and results of operations may suffer.

Volatility or lack of performance in our stock price may also affect our ability to attract and retain our key personnel. Our executive officers and employees hold a substantial number of shares of our common stock and vested stock options. Employees may be more likely to leave us if the shares they own or the shares underlying their vested options have significantly appreciated in value relative to the original purchase prices of the shares or the exercise prices of the options, or if the exercise prices of the options that they hold are significantly above the market price of our common stock. If we are unable to retain our employees, our business, operating results and financial condition will be harmed.

If we fail to maintain proper and effective internal controls, our ability to produce accurate financial statements on a timely basis could be impaired, which would adversely affect our operating results, our ability to operate our business and our stock price.

Ensuring that we have adequate internal financial and accounting controls and procedures in place to produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. We have in the past discovered, and may in the future discover, areas of our internal financial and accounting controls and procedures that need improvement.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Our management does not expect that our internal control over financial reporting will prevent or detect all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within our company will have been detected.

We are required to comply with Section 404 of the Sarbanes-Oxley Act ("SOX"), which requires us to expend significant resources in developing the required documentation and testing procedures. We cannot be certain that the actions we have taken and are taking to improve our internal controls over financial reporting will be sufficient to maintain effective internal controls over financial reporting in subsequent reporting periods, or that we will be able to implement our planned processes and procedures in a timely manner. In addition, new and revised accounting standards and financial reporting requirements may occur in the future, and implementing changes required by new standards,

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requirements or laws may require a significant expenditure of our management's time, attention and resources and may adversely affect our reported financial results. If we are unable to produce accurate financial statements on a timely basis, investors could lose confidence in the reliability of our financial statements, which could cause the market price of our common stock to decline and make it more difficult for us to finance our operations and growth.

Interruptions, failures or material breaches in our information technology and communications systems could harm our business, customer relations and financial condition.

Information technology helps us operate efficiently, interface with customers, maintain financial accuracy and efficiency and accurately produce our financial statements. If we do not allocate and effectively manage the resources necessary to build and sustain the proper technology infrastructure, we could be subject to transaction errors, processing inefficiencies, the loss of customers, business disruptions or the loss of or damage to intellectual property through security breach. If our data management systems do not effectively collect, store, process and report relevant data for the operation of our business, whether due to equipment malfunction or constraints, software deficiencies or human error, our ability to effectively plan, forecast and execute our business plan and comply with applicable laws and regulations will be impaired, perhaps materially. Any such impairment could materially and adversely affect our financial condition, results of operations, cash flows and the timeliness with which we report our internal and external operating results.

We have applied multiple layers of security to control access to our information technology systems. We also use encryption and authentication technologies to secure the transmission and storage of data. These security measures may be compromised as a result of third-party security breaches, employee error, malfeasance, faulty password management or other irregularity, and result in persons obtaining unauthorized access to our data or accounts. Third parties may attempt to fraudulently induce employees into disclosing user names, passwords or other sensitive information, which may in turn be used to access our information technology systems.

While we apply best practice policies and devote significant resources to network security, data encryption and other security measures to protect our information technology and communications systems and data, these security measures cannot provide absolute security. We may experience a breach of our systems and may be unable to protect sensitive data. The costs to us to eliminate or alleviate network security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant, and our efforts to address these problems may not be successful and could result in unexpected interruptions, delays, cessation of service and may harm our business operations.

Although our systems have been designed around industry-standard architectures to reduce downtime in the event of outages or catastrophic occurrences, they remain vulnerable to damage or interruption from earthquakes, floods, fires, power loss, telecommunication failures, terrorist attacks, cyber-attacks, computer viruses, computer denial-of-service attacks, human error, hardware or software defects or malfunctions, and similar events or disruptions. Some of our systems are not fully redundant, and our disaster recovery planning is not sufficient for all eventualities. Our systems are also subject to break-ins, sabotage, and intentional acts of vandalism. Despite any precautions we may take, the occurrence of a natural disaster, a decision by any of our third-party hosting providers to close a facility we use without adequate notice for financial or other reasons, or other unanticipated problems at our hosting facilities could cause system interruptions and delays, and result in loss of critical data and lengthy interruptions in our services. We incur significant increased costs as a result of operating as a public company, which may adversely affect our operating results and financial condition.

As a public company, we incur significant accounting, legal and other expenses that we did not incur as a private company, including costs associated with our public company reporting requirements. We also anticipate that we will continue to incur costs associated with corporate governance requirements, including requirements under the SOX and the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"), as well as rules implemented by the SEC, and the New York Stock Exchange ("NYSE"). Furthermore, these laws and regulations could make it more difficult or more costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

New laws and regulations as well as changes to existing laws and regulations affecting public companies, including the provisions of SOX and Dodd-Frank and rules adopted by the SEC and the NYSE, would likely result in increased costs to us as we respond to their requirements. We are investing resources to comply with evolving laws and regulations, and this investment may result in increased general and administrative expense and a diversion of management's time and attention from revenue generating activities to compliance activities.

Risks Related to Our Acquisition of the Fiber Access Assets of Ericsson

Our future results may differ materially from those in our current financial statements and financial forecasts, and the potential benefits of the transactions may not be realized.

As a result of our acquisition of Ericsson's fiber access assets and the establishment of a non-exclusive global reseller agreement between the two companies, our future results may be materially different from those contained in our current financial statements and financial forecasts. In addition, potential growth, expected financial results, perceived synergies and anticipated opportunities may not be realized through the ongoing integration of our business with that of the Ericsson fiber access business.

The Ericsson transaction could cause disruptions and materially adversely affect the future business and operations of the combined organization.

In connection with the Ericsson transaction, it is possible that some customers, suppliers and other persons with whom we or Ericsson have had a business relationship may delay or defer certain business decisions, or determine to purchase a competitor's products. In particular,

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customers could be reluctant to purchase products due to uncertainty about the direction of our combined technology and product road map, and uncertainty regarding the willingness of the combined organization to support and service existing products after the transactions. If customers, suppliers or other persons, delay or defer business decisions, or purchase a competitor's products, it could negatively impact revenues, earnings and cash flows of the combined organization, as well as the market price of our common stock.

Risks Related to Ownership of Our Common Stock

Our stock price may be volatile, and the value of an investment in our common stock may decline.

The trading price of our common stock has been, and is likely to continue to be, volatile, which means that it could decline substantially within a short period of time and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include those discussed in the "Risk Factors" section of this Form 10-K and others such as:

- quarterly variations in our results of operations or those of our competitors;
- failures by us to meet any guidance regarding our anticipated results that we have previously provided;
- changes in earnings estimates or recommendations by securities analysts;
- announcements by us or our competitors of new products, significant contracts, commercial relationships, acquisitions or capital commitments;
- developments with respect to intellectual property rights;
- our ability to develop and market new and enhanced products on a timely basis;
- our commencement of, or involvement in, litigation;
- changes in governmental regulations or in the status of our regulatory approvals; and
- a slowdown in the communications industry or the general economy.

In recent years, the stock market in general, and the market for technology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

If securities or industry analysts do not publish research or reports about our business or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding our stock, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could have the effect of delaying or preventing changes in control or changes in our management without the consent of our board of directors. These provisions include:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
-

the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;

- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

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We are also subject to certain anti-takeover provisions under Delaware law. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction.

We may need additional capital in the future to finance our business.

We may need to raise additional capital to fund operations in the future. Although we believe that, based on our current level of operations and anticipated growth, our existing cash and cash equivalents will provide adequate funds for ongoing operations, planned capital expenditures and working capital requirements for at least the next 12 months, we may need additional capital if our current plans and assumptions change. If future financings involve the issuance of equity securities, our then-existing stockholders would suffer dilution. If we raised additional debt financing, and/or negotiate a new credit agreement to replace our expiring line of credit, we may be subject to restrictive covenants that limit our ability to conduct our business. We may not be able to raise sufficient additional funds on terms that are favorable to us, if at all. If we fail to raise sufficient funds and continue to incur losses, our ability to fund our operations, take advantage of strategic opportunities, develop products or technologies or otherwise respond to competitive pressures could be significantly limited. Any failure to obtain financing when and as required could force us to curtail our operations, which would harm our business.

We do not currently intend to pay dividends on our common stock and, consequently, our stockholder's ability to achieve a return on their investment will depend on appreciation in the price of our common stock.

We do not currently intend to pay any cash dividends on our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Additionally, the terms of our credit facility restrict our ability to pay dividends. Therefore, our stockholders are not likely to receive any dividends on our common stock for the foreseeable future.

ITEM 1B. Unresolved Staff Comments.

None.

ITEM 2. Properties.

We currently lease approximately 287,300 square feet of office space worldwide. In November 2012, we entered into a lease agreement for our office in San Jose, California that expires in August 2018. Information concerning our principal leased properties as of December 31, 2012 is set forth below:

Location	Principal Use	Square Footage	Lease Expiration Date
Petaluma, California ⁽¹⁾	Corporate headquarters, sales, marketing, product design, service and repair engineering, distribution, research and development	82,100	February 2014
Santa Barbara, California	Product design, research and development	51,000	July 2014
San Jose, California	Product design, research and development	46,100	August 2018
Fremont, California ⁽²⁾	Research and development, service and repair engineering	36,000	July 2015
Minneapolis, Minnesota	Product design, research and development, service and repair engineering	33,200	March 2014
Nanjing, China	Research and development	26,600	February 2016
Acton, Massachusetts	Research and development	6,200	June 2016
Richardson, Texas	Service and repair engineering	6,100	July 2017
		287,300	

(1) On January 28, 2013, we entered into an amendment to this Petaluma lease and extended the expiration date to February 2019. See Note 14, "Subsequent Event" of the Notes to Consolidated Financial Statements in this Form 10-K for details.

(2) A portion of the property is sublet under a sublease expiring in 2015. The remaining area of the property is estimated to be vacated in March 2013 for sublease. Employees in this location will be consolidated into our San Jose,

California location.

We believe that our facilities are in good condition and are generally suitable to meet our needs for the foreseeable future. However, we may continue to seek additional space as needed, and we believe this space will be available on commercially reasonable terms.

ITEM 3. Legal Proceedings

For a description of our material pending legal proceedings, please refer to Note 5, “Commitments and Contingencies – Litigation” of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K, which is incorporated by reference.

ITEM 4. Mine Safety Disclosures.

Not applicable.

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PART II

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

Comparative Stock Prices

Our common stock has been trading on the New York Stock Exchange, under the trading symbol "CALX" since our initial public offering on March 24, 2010. Prior to this time, there was no public market for our common stock. The following table sets forth, for the fiscal periods indicated, the high and low sale prices per share of our common stock as reported on NYSE.

	High	Low
Fiscal Year 2012		
First Quarter	\$12.21	\$6.08
Second Quarter	9.48	6.65
Third Quarter	8.26	4.25
Fourth Quarter	7.80	5.47
	High	Low
Fiscal Year 2011		
First Quarter	\$22.53	\$14.99
Second Quarter	22.97	18.30
Third Quarter	22.47	9.73
Fourth Quarter	10.63	5.60

Number of Common Stock Holders and Number of Shares Outstanding

On February 14, 2013, there were approximately 341 stockholders of record of our common stock who held an aggregate of 48,912,031 shares of our common stock. The closing price of our common stock as of February 14, 2013 was \$8.60. A substantially greater number of holders of Calix common stock are street name or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

Dividends

We have never declared or paid any cash dividends on our common stock. We do not currently intend to pay any cash dividends on our common stock in the foreseeable future.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

None.

Performance Graph

The following graph shows a comparison of the cumulative total shareholder return on our common stock with the cumulative total returns of the NYSE Composite Index and the Morningstar Communication Equipment Index. The graph tracks the performance of a \$100 investment in our common stock and in each of the indexes during the period from March 24, 2010 (the date our common stock commenced trading on NYSE) through December 31, 2012. Data for the NYSE Composite Index and the Morningstar Communication Equipment Index assume reinvestment of dividends. Shareholder returns over the indicated period are based on historical data and should not be considered indicative of future shareholder returns.

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This performance graph shall not be deemed “soliciting material” or to be “filed” with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any filing of Calix, Inc. under the Securities Act of 1933, as amended.

ITEM 6. Selected Financial Data.

The following selected consolidated financial data should be read in conjunction with our consolidated financial statements and the related notes thereto, of this Form 10-K, the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the other financial information and data appearing elsewhere in this Form 10-K. The selected financial data included in this section is not intended to replace and is not a substitute for, the financial statements and related notes in this Form 10-K.

We derived the statements of operations data for the years ended December 31, 2012, 2011 and 2010 and the balance sheet data as of December 31, 2012 and 2011 from our audited financial statements and related notes thereto of this Form 10-K. We derived the statements of operations data for the years ended December 31, 2009 and 2008, and the balance sheet data as of December 31, 2010, 2009 and 2008 from our audited financial statements and related notes which are not included in this Form 10-K. Historical results for any prior period are not necessarily indicative of future results for any period.

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	Years Ended December 31,				
	2012 ⁽¹⁾	2011 ⁽¹⁾	2010	2009	2008
	(In thousands, except per share data)				
Statements of Operations Data:					
Revenue	\$330,218	\$344,669	\$287,043	\$232,947	\$250,463
Cost of revenue:					
Products and services ⁽²⁾	185,103	195,698	168,873	150,863	165,925
Acquisition-related expenses	—	19,966	—	—	—
Amortization of intangible assets	7,539	9,552	5,440	5,440	5,440
Total cost of revenue	192,642	225,216	174,313	156,303	171,365
Gross profit	137,576	119,453	112,730	76,644	79,098
Operating expenses:					
Research and development ⁽²⁾	66,748	67,725	55,412	46,132	44,348
Sales and marketing ⁽²⁾	62,129	55,551	42,121	33,486	31,627
General and administrative ⁽²⁾	26,114	27,002	27,998	15,613	15,253
Acquisition-related expenses ⁽²⁾	1,401	12,927	3,942	—	—
Amortization of intangible assets	10,208	8,569	740	740	740
Total operating expenses	166,600	171,774	130,213	95,971	91,968
Loss from operations	(29,024)	(52,321)	(17,483)	(19,327)	(12,870)
Interest and other income (expense), net ⁽³⁾	856	(5)	(989)	(3,466)	(130)
Loss before provision for (benefit from) income taxes	(28,168)	(52,326)	(18,472)	(22,793)	(13,000)
Provision for (benefit from) income taxes	158	224	81	(352)	(81)
Net loss	(28,326)	(52,550)	(18,553)	(22,441)	(12,919)
Preferred stock dividends	—	—	900	3,747	4,065
Net loss attributable to common stockholders	\$(28,326)	\$(52,550)	\$(19,453)	\$(26,188)	\$(16,984)
Net loss per common share:					
Basic and diluted	\$(0.59)	\$(1.15)	\$(0.65)	\$(6.48)	\$(4.27)
Weighted-average number of shares used to compute net loss per common share:					
Basic and diluted	48,180	45,546	29,778	4,040	3,975
	As of December 31,				
	2012 ⁽¹⁾	2011 ⁽¹⁾	2010	2009	2008
	(In thousands, except per share data)				
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	\$46,995	\$38,938	\$98,324	\$68,049	\$23,214
Working capital	84,255	77,745	126,957	77,999	41,403
Total assets	377,897	358,103	257,556	241,116	189,455
Current and long-term loans payable	—	—	—	20,000	21,000
Preferred stock warrant liabilities	—	—	—	195	232
Convertible preferred stock	—	—	—	479,628	426,403
Common stock and additional paid-in capital	761,454	741,504	606,907	52,841	43,597
Total stockholders' equity (deficit)	269,075	277,417	195,303	(339,358)	(322,397)

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(1) We acquired Ericsson's fiber access assets in November 2012 and Occam in February 2011. Our Consolidated Statements of Operations and Consolidated Balance Sheets data include the results of these acquired businesses only for periods subsequent to their respective acquisition dates. See Note 2, "Business Combinations" of the Notes to the Consolidated Financial Statements in this Form 10-K for more details.

(2) Includes stock-based compensation as follows:

	2012	2011	2010	2009	2008
Cost of revenue	\$1,433	\$1,503	\$1,745	\$682	\$619
Research and development	4,227	4,828	5,966	2,657	3,189
Sales and marketing	5,160	4,500	4,555	1,739	1,998
General and administrative	6,617	9,538	13,309	4,118	4,134
Acquisition-related expenses	—	1,234	—	—	—
Total	\$17,437	\$21,603	\$25,575	\$9,196	\$9,940

(3) 2012 includes \$1.0 million gain on bargain purchase of business; 2010, 2009, and 2008 include \$1.2 million, \$3.9 million, and \$2.1 million of interest expense, respectively, which are primarily for a term loan that was repaid in May 2010.

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

The Management's Discussion and Analysis of Financial Condition and Results of Operations contains forward-looking statements regarding future events and our future results that are subject to the safe harbors created under the Securities Act of 1933 (the "Securities Act") and the Securities Exchange Act of 1934 (the "Exchange Act"). All statements other than statements of historical facts are statements that could be deemed forward-looking statements. These statements are based on current expectations, estimates, forecasts, and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as "may," "will," "expects," "plans," "anticipates," "estimates," "potential," or "continue" or the negative thereof or other comparable terminology. In addition, any statements that refer to projections of our future financial performance, our anticipated growth and trends in our businesses, and other characterizations of future events or circumstances are forward-looking statements. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified below, as well as on the inside back cover of this Annual Report to Shareholders and under "Part I, Item 1A. Risk Factors," and elsewhere in report on Form 10-K. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. All forward-looking statements and reasons why results may differ included in this report are made as of the date hereof, and we assume no obligation to update these forward-looking statements or reasons why actual results might differ.

Overview

We are a leading provider in North America of broadband communications access systems and software for fiber- and copper-based network architectures that enable communications service providers to connect to their residential and business subscribers. We enable CSPs to provide a wide range of revenue-generating services, from basic voice and data to advanced broadband services, over legacy and next-generation access networks. We focus solely on CSP access networks, the portion of the network that governs available bandwidth and determines the range and quality of services that can be offered to subscribers. We develop and sell carrier-class hardware and software products, which is referred to as the Unified Access portfolio that are designed to enhance and transform CSP access networks to meet the changing demands of subscribers rapidly and cost-effectively.

We market our access systems and software to CSPs globally through our direct sales force as well as a limited number of resellers. As of December 31, 2012, over sixteen million ports of our Unified Access portfolio have been deployed at more than 1,150 CSPs worldwide, whose networks serve over 100 million subscriber lines in total. Our customers include many of the world's largest communications providers. In addition, we have over 425 commercial video customers and have enabled over 750 customers to deploy gigabit passive optical network, Active Ethernet and point-to-point Ethernet fiber access networks.

Our revenue increased from \$287.0 million for 2010 to \$344.7 million for 2011, and then decreased to \$330.2 million for 2012. In 2011, our revenues increased over 2010 primarily due to higher shipment revenue resulting from an increase in our customer base from the Occam acquisition. However in the second half of fiscal 2011, we experienced a slowdown in business primarily related to continued delays in Broadband Stimulus awards under the American Recovery and Reinvestment Act of 2009 becoming shippable orders due to challenges that a number of our awarded customers were facing in navigating some of the bureaucratic hurdles of the program. Other factors that contributed to this slowdown include reduced investment in the traditional networks at one of our major customers, the competitive environment, weak macro-economic conditions and fiber shortages in certain portions of the market caused by the tsunami in Northern Japan. During the first half of 2012, we experienced continued softness in our business due to lower demand across multiple customer markets. We believe this was due to a slowdown in capital expenditures by service providers increasingly concerned about macro-economic conditions and uncertainties associated with the implementation of regulatory reforms. We experienced steady improvement during the remainder of 2012 and completed the year with stronger results compared to the first half of 2012. Revenue growth will depend on our ability to continue to sell our access systems and software to existing customers and to attract new customers, including in particular, those customers in the large CSP and international markets. Additionally, we expect our acquisition of Ericsson's fiber access assets to have a positive impact to revenue beyond 2012. Since our inception we have incurred significant losses, and as of December 31, 2012, we had an accumulated deficit of \$492.5

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million. Our net loss was \$28.3 million, \$52.6 million, and \$18.6 million for the years ended December 31, 2012, 2011, and 2010, respectively.

Revenue fluctuations result from many factors, including but not limited to: increases or decreases in customer orders for our products and services, large customer purchase agreements with delayed revenue recognition, varying budget cycles for our customers and seasonal buying patterns of our customers. More specifically, our customers tend to spend less in the first fiscal quarter as they are finalizing their annual budgets. Customers then typically begin to purchase more products during our second and third fiscal quarters. Finally, in our fourth fiscal quarter, customer purchases typically increase as they are attempting to spend the rest of their budget for the year. As of December 31, 2012, our deferred revenue of \$55.1 million primarily included certain contracts with customers who receive government supported loans and grants from the U.S. Department of Agriculture's Rural Utility Service ("RUS") that include installation services, services, special customer arrangements and ratably recognized services. The timing of deferred recognition may cause significant fluctuations in our revenue and operating results from period to period. Cost of revenue is strongly correlated to revenue and will tend to fluctuate from all of the aforementioned factors that could impact revenue. Other factors that impact cost of revenue include changes in the mix of products delivered to our customers and changes in the cost of our inventory. Cost of revenue includes fixed expenses related to our internal operations, which could impact our cost of revenue as a percentage of revenue if there are large sequential fluctuations to revenue.

Our gross profit and gross margin have been, and will likely be, impacted by several factors, including new product introduction or upgrades to existing products, changes in customer mix, changes in the mix of products demanded and sold, shipment volumes, changes in our product costs, changes in pricing and the extent of customer rebates and incentive programs. We believe our gross margin could increase due to favorable changes in these factors, for example, increases in sales of our advanced E-Series Ethernet service access platforms, upgrades to our C7 platform, new introductions of our P-Series optical network terminals and reductions in the impact of rebate or similar programs. We believe our gross margin could decrease due to unfavorable changes in factors such as increased product costs, pricing decreases due to competitive pressure and an unfavorable customer or product mix. Changes in these factors could have a material impact on our future average selling prices and unit costs. Also, the timing of deferred revenue recognition and related deferred costs can have a material impact on our gross profit and gross margin results. The timing of recognition and the relative size of these arrangements could cause large fluctuations in our gross profit from period to period.

Our operating expenses have fluctuated based on the following factors: timing of variable compensation expenses due to fluctuations in order volumes, timing of salary increases which have historically occurred in the second quarter, timing of bonus accrual due to changes in the Company's performance, timing of research and development expenses including prototype builds and intermittent outsourced development projects, and increases in stock-based compensation expenses resulting from modifications to outstanding stock options. Our operating expenses for fiscal 2012 include acquisition-related expenses and amortization of intangible assets from our acquisition of Ericsson's fiber access assets as discussed in more detail below. We anticipate that our operating expenses will increase but will decline as a percentage of revenue over time.

As a result of the fluctuations described above and a number of other factors, many of which are outside our control, our annual operating results fluctuate from year to year. You should not rely on our past results as an indication of our future performance.

Acquisition of Ericsson's Fiber Access Assets

On November 2, 2012, we acquired the fiber access assets of Ericsson, including the Ericsson EDA 1500 GPON solution and its complementary ONT portfolio, under an Asset Purchase Agreement. Total consideration for the purchase was \$12.0 million in cash. As a result of this acquisition, Calix hired 50 U.S.-based employees of Ericsson, and transitioned ongoing support of the acquired products from Ericsson to Calix.

In connection with this acquisition, Calix and Ericsson also signed a non-exclusive global reseller agreement, under which Calix became Ericsson's preferred global partner for broadband access applications. We expect this partnership to provide Calix with an extensive new global reseller channel, and we believe our acquisition of Ericsson's fiber access portfolio delivers powerful new complements to our industry-leading Unified Access portfolio. We expect that

this partnership will also provide Ericsson's existing fiber access customers with world-class support and maintenance, and an expanded portfolio of access systems and software from a leading company totally focused on access. The transaction is accounted for using the acquisition method of accounting in accordance with the accounting standard for business combinations. We have included the financial results of the acquired Ericsson's fiber access assets in the Consolidated Financial Statements from the date of acquisition. See Note 2, "Business Combinations" of the Notes to Consolidated Financial Statements in this Form 10-K for additional information related to this acquisition. We expect the acquisition to have a positive impact on our international business over time.

Acquisition of Occam Networks

On February 22, 2011, we completed our acquisition of Occam, a provider of innovative broadband access products designed to enable telecom service providers to offer bundled voice, video and high speed internet, or Triple Play, services over both fiber optic and copper networks in a stock and cash transaction valued at approximately \$213.1 million which consisted of \$94.5 million of cash consideration and a value of \$118.6 million of common stock and equity awards issued. The combined organization provides CSPs globally with an enhanced portfolio of advanced broadband access systems, and accelerates innovation across our expanded Unified Access portfolio. The acquisition resulted in more access options over both fiber and copper for CSPs to deploy, which could expedite the proliferation of advanced broadband services to both residential and business subscribers, including such services as high-speed Internet, IPTV, VOIP, Ethernet business services, and other advanced broadband applications.

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As a result of this acquisition, we recorded \$50.6 million in goodwill and \$97.7 million in other intangible assets. We are amortizing the finite-lived intangible assets over their useful lives. See “Critical Accounting Policies and Use of Estimates-Valuation of Goodwill and Intangible Assets” section below for information relating to these items and our test for impairment. Under purchase accounting rules, we revalued the Occam assets and liabilities acquired at the time of the acquisition, based on their fair value. See Note 2, “Business Combinations” of the Notes to Consolidated Financial Statements included in this report for additional information related to this acquisition.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. These accounting principles require us to make certain estimates and judgments that can affect the reported amounts of assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenue and expenses during the periods presented. We base our estimates, assumptions and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. To the extent there are material differences between these estimates and actual results, our financial statements will be affected. We evaluate our estimates, assumptions and judgments on an ongoing basis.

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our financial statements.

Business Combination

We accounted for our business acquisitions under Accounting Standards Codification (“ASC”) Topic 805, “Business Combinations.” Under this guidance, all of the assets acquired and liabilities assumed are recognized at their fair value as of the acquisition date. The excess of the purchase price over the estimated fair values of the net tangible and intangible assets acquired is recorded as goodwill. If a business combination results in a bargain purchase for us, the economic gain resulting from the fair value received being greater than the purchase price is recorded as a gain included in other income (expense), net in the Consolidated Statements of Comprehensive Loss. Prior to recognizing the gain, we reassess whether we have correctly identified all of the assets acquired and liabilities assumed and recognize any additional assets or liabilities that result from that review. We also review the measurement procedures used in valuing the assets acquired and liabilities assumed.

While we use our best estimates and assumptions as a part of calculating the fair value at the acquisition date, our estimates are inherently uncertain and subject to refinement. These assumptions and estimates include a market participant’s use of the asset and an appropriate discount rate. Our estimates are based on historical experience and information obtained from the management of the acquired companies. Our significant assumptions and estimates can include, but are not limited to, the cash flows that an asset is expected to generate in the future, the appropriate weighted-average cost of capital, and the cost savings expected to be derived from acquiring an asset. These estimates are inherently uncertain and unpredictable. In addition, unanticipated events and circumstances may occur which may affect the accuracy or validity of such estimates. As a result, during the measurement period, which may be up to one year from the acquisition date, we may record adjustments retrospectively to the fair value of assets acquired and liabilities assumed, with the corresponding offset to goodwill as of the acquisition date, or other income or expense in the case of a bargain purchase for the period of the acquisition. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our Consolidated Statements of Comprehensive Loss.

Revenue Recognition

We derive revenue primarily from the sale of hardware products and related software. Revenue is recognized when all of the following criteria have been met:

- Persuasive evidence of an arrangement exists. We generally rely upon sales agreements and customer purchase orders as evidence of an arrangement.
- Delivery has occurred. We use the shipping terms of the arrangement or evidence of customer acceptance to verify delivery or performance.
- Sales price is fixed or determinable. We assess whether the sales price is fixed or determinable based on the payment terms and whether the sales price is subject to refund or adjustment. Payment terms to customers can range from net 30 to net 120 days.

Collectability is reasonably assured. We assess collectability based primarily on creditworthiness of customers and their payment histories.

Revenue from installation and training services are recognized as the services are completed. Post-sales software support revenue and extended warranty services revenue are deferred and recognized ratably over the period during which the services are to be performed. To date, service revenue has comprised an insignificant portion of our revenue and we have not reported service revenue separately from product revenue in our financial statements. In instances where substantive acceptance provisions are specified in the customer agreement, revenue is deferred until all acceptance criteria have been met. From time to time, we offer customers sales incentives, which include volume rebates and discounts. These amounts are estimated on a quarterly basis and recorded net of revenue.

We enter into arrangements with certain of our customers who receive government supported loans and grants from the RUS to finance capital spending. Under the terms of an RUS equipment contract that includes installation services, the customer does not take possession and control and title does not pass until formal acceptance is obtained from the customer. Under this type of arrangement, we do not recognize revenue until we have received formal acceptance from the customer. For RUS arrangements that do not involve installation services, we recognize revenue in accordance with the revenue recognition policy described above.

Our products contain both software and non-software components that function together to deliver the products' essential functionality. When we enter into sales arrangements that consist of multiple deliverables of our product and service offerings, we allocate the total

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consideration of the arrangement to each separable deliverable based on their relative selling price. We limit the amount allocable to delivered elements to the amount that is not contingent upon the delivery of additional items or meeting specified performance conditions, and recognize revenue on each deliverable in accordance with our revenue policy. The determination of selling price for each deliverable is based on a selling price hierarchy, which is vendor-specific objective evidence (“VSOE”) if available, third-party evidence (“TPE”) if VSOE is not available, or estimated selling price (“ESP”) if neither VSOE nor TPE is available. VSOE of selling price is based on the price charged when the element is sold separately. In determining VSOE, we require that a substantial majority of the selling prices of an element fall within a narrow range when each element is sold separately. We have established VSOE for our training and post-sales software support services based on the normal pricing practices of these services when sold separately. TPE of selling price is established by evaluating whether there are similar competitor products or services that are sold in stand-alone sales transaction to similarly situated customers. Generally, our marketing strategy differs from that of our peers and our offerings contain a significant level of customization and differentiation such that the comparable pricing of products with similar functionality cannot be obtained. Additionally, as we are unable to reliably determine what similar competitor products' selling prices are on a stand-alone basis, we are not typically able to determine TPE. ESP is established considering multiple factors including, but not limited to geographies market conditions, competitive landscape, internal costs, gross margin objectives, characteristics of targeted customers and pricing practices. The determination of ESP is made through consultation with and formal approval by management, taking into consideration the go-to-market strategy.

Stock-Based Compensation

In accordance with ASC Topic 718, "Compensation - Stock Compensation," stock-based awards are recorded at fair value as of the grant date and recognized to expense over the employee's requisite service period (generally the vesting period), which we have elected to amortize on a straight-line basis.

We value restricted stock units ("RSUs") and restricted stock awards ("RSAs") at the closing market price of our common stock on the date of grant. The fair value of performance restricted stock units ("PRSUs") with a market condition is estimated on the date of grant, using a Monte Carlo simulation model to estimate the total return ranking of our common stock in relation to the peer group over each performance period. Compensation cost on PRSUs with a market condition is not adjusted for subsequent changes in the Company's stock performance or the level of ultimate vesting.

We estimate the fair value of stock options and employee stock purchase rights at the grant date using the Black-Scholes option-pricing model. This model requires the use of highly judgmental assumptions, including expected stock price volatility and expected life of option awards, which have a significant impact on the fair value estimates and are discussed in detail in Note 8, "Stockholders' Equity" of the Notes to Consolidated Financial Statements in this Form 10-K. Changes to these estimates will cause the fair values of our stock options and related stock-based compensation expense that we record to vary.

In addition, we apply an estimated forfeiture rate to awards granted and record stock-based compensation expense only for those awards that are expected to vest. Forfeiture rates are estimated at the time of grant based on our historical experience. Further, to the extent our actual forfeiture rate is different from our estimate, stock-based compensation is adjusted accordingly.

Inventory Valuation

Inventory consisting of finished goods purchased from contract manufacturers is stated at the lower of cost, determined by the first-in, first-out method, or market value. We regularly monitor inventory quantities on-hand and record write-downs for excess and obsolete inventories based on our estimate of demand for our products, potential obsolescence of technology, product life cycle and whether pricing trends or forecasts indicate that the carrying value of inventory exceeds our estimated selling price. These factors are impacted by market and economic conditions, technology changes and new product introductions and require estimates that may include elements that are uncertain. Actual demand may differ from forecasted demand and may have a material effect on gross margins. If inventory is written down, a new cost basis is established that cannot be increased in future periods. The sale of previously reserved inventory has not had a material impact on our gross margins.

Allowance for Doubtful Accounts

We maintain an allowance for doubtful accounts for estimated losses resulting from the inability or unwillingness of our customers to make required payments. We record a specific allowance based on an analysis of individual past-due balances. Additionally, based on historical write-offs and our collection experience, we record an additional allowance based on a percentage of outstanding receivables. We perform credit evaluations of our customers' financial condition. These evaluations require significant judgment and are based on a variety of factors including, but not limited to, current economic trends, payment history and a financial review of the customer.

Warranty

We offer limited warranties for our hardware products for a period of one or five years, depending on the product type. We recognize estimated costs related to warranty activities as a component of cost of revenue upon product shipment. The estimates are based on historical product failure rates and historical costs incurred in correcting product failures. The recorded amount is adjusted from time to time for specifically identified warranty exposure. Actual warranty expenses are charged against our estimated warranty liability when incurred. Factors that affect our warranty liability include the number of installed units and historical and anticipated rates of warranty claims and cost per claim.

Valuation of Goodwill and Intangible Assets

Goodwill is not amortized but instead is subject to an annual impairment test or more frequently if events or changes in circumstances indicate that it may be impaired. We evaluate goodwill on an annual basis as of the end of the second quarter of each year. Management has

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determined that we operate as a single reporting unit and, therefore, evaluates goodwill impairment at the enterprise level. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate an asset's carrying value may not be recoverable.

To evaluate for impairment, we compare the Company's fair value to its carrying value including goodwill. We determine the Company's fair value using both an income approach and a market approach. Under the income approach, we determine the fair value based on estimated future cash flows, discounted by an estimated weighted-average cost of capital, which reflects the overall level of inherent risk of the Company and the rate of return an outside investor would expect to earn. Under the market-based approach, we utilize information regarding the Company as well as publicly available industry information to determine earnings multiples that are used to value the Company. If the carrying value of the Company exceeds its fair value, we will test to determine the amount of impairment loss by comparing the implied fair value of goodwill with the carrying value of goodwill. An impairment charge is recognized for the excess of the carrying value of goodwill over its implied fair value.

We completed the annual goodwill impairment test as of June 30, 2012 in July 2012 and determined that the fair value of our reporting unit exceeded the carrying value by approximately 15%. See Note 3, "Goodwill and Intangible Assets" for a detailed discussion. There have been no significant events or circumstances affecting the valuation of goodwill subsequent to the annual impairment test performed in July 2012. As of December 31, 2012, there was no impairment to the carrying value of our goodwill. In addition, there were no impairment losses for goodwill during 2011 and 2010.

Intangible assets with finite useful lives are amortized over their estimated useful life, generally 5 years. We periodically evaluate intangible assets for impairment whenever events or changes in circumstances indicate that a potential impairment may have occurred. If such events or changes in circumstances arise, we compare the carrying amount of the intangible assets to the estimated future undiscounted cash flows expected to be generated by the assets. If the estimated aggregate undiscounted cash flows are less than the carrying amount of the intangible assets, an impairment charge, calculated as the amount by which the carrying amount of the assets exceeds the fair value of the assets, is recorded. The fair value of intangible assets is determined based on the estimated discounted cash flows expected to be generated from the assets. We have reviewed events and changes to our business during the year and have determined that there was no impairment to our intangible assets during 2012. We did not incur any impairment losses for intangible assets during 2011 and 2010.

Income Taxes

We evaluate our tax positions and estimate our current tax exposure in each jurisdiction in which we operate. This includes assessing the temporary differences resulting from differing treatment of items not currently deductible for tax purposes. These differences result in deferred tax assets and liabilities on our consolidated balance sheets, which are calculated based upon the difference between the financial statement and tax bases of assets and liabilities using the enacted tax rates that will be in effect when these differences reverse. In general, deferred tax assets represent future tax benefits to be received when certain expenses previously recognized in our statements of operations become deductible expenses under applicable income tax laws or loss or credit carry-forwards are utilized. Since realization of our deferred tax assets is dependent on future taxable income against which these deductions, losses and credits can be utilized, we must assess the likelihood that our deferred tax assets will be recovered from future taxable income. To the extent we believe that recovery is below the more likely than not threshold, we must establish a valuation allowance against the net deferred tax asset. Significant judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against net deferred tax assets.

Since inception, we have incurred operating losses and accordingly have federal and state net operating loss carry-forwards of \$554.7 million and \$318.7 million. The U.S. federal net operating loss carryforwards will expire at various dates beginning in 2018 and through 2032 if not utilized. The state net operating loss carryforwards will expire at various dates beginning in 2013 and through 2032, if not utilized. Additionally, we have U.S. federal and state research and development credits of \$15.9 million and \$22.0 million as of December 31, 2012. The credits have varying expiration dates between 2015 and 2032 with California credits having no expiration. These two items account for the bulk of our net deferred tax asset of \$207.5 million as of December 31, 2012. Excluding our foreign operations, we have recorded a full valuation allowance against the net deferred assets at each balance sheet date

presented. We believe that based on the available evidence and history of operating losses, it is more likely than not that we will not be able to utilize all of our deferred tax assets before expiration. We intend to maintain the full valuation allowances until sufficient evidence exists to support the reversal of the valuation allowances.

Results of Operations for Years Ended December 31, 2012, 2011 and 2010

Revenue

The following table sets forth our revenue (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011 Change		2011 vs 2010 Change	
	2012	2011	2010	\$	%	\$	%
Revenue	\$330,218	\$344,669	\$287,043	\$(14,451)	(4)%	\$57,626	20%

Our revenue is principally derived in the United States. During 2012, 2011, and 2010, revenue generated in the United States represented approximately 93%, 94% and 85%, respectively.

2012 compared to 2011: Revenue decreased in 2012 compared with 2011 by \$14.5 million, or 4%, primarily due to a decrease in shipment volume during the first half of the year resulting from the softness in demand across multiple customer markets which we believe was due to a slowdown in capital expenditures by service providers increasingly concerned about macro-economic conditions and uncertainties

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associated with the implementation of regulatory reforms. In the first half of 2012, revenue decreased by \$11.9 million as compared to the same period of 2011. These issues began to subside in the second half of 2012 and our shipment volume and revenue increased accordingly.

2011 compared to 2010: Revenue increased by \$57.6 million from \$287.0 million in 2010 to \$344.7 million in 2011 primarily due to an increase in our customer base as a result of the Occam acquisition. Our revenue in the second half of the fiscal 2011 was impacted by a slowdown in business primarily related to continued delays in Broadband Stimulus awards under the American Recovery and Reinvestment Act of 2009 becoming shippable orders due to challenges that a number of our awarded customers are facing in navigating some of the bureaucratic hurdles of the program. Other factors that contributed to this slowdown include reduced investment in the traditional networks at one of our major customers, the competitive environment, weak macro-economic conditions and fiber shortages in certain portions of the market caused by the tsunami in Northern Japan.

Cost of Revenue and Gross Profit

Our cost of revenue is comprised of the following:

Products and services revenue—Cost of products revenue includes the inventory costs of our products that have shipped, accrued warranty costs for our standard warranty program, outbound freight costs to deliver products to our customers, overhead from our manufacturing operations cost centers, including stock-based compensation, and other manufacturing related costs associated with manufacturing our products and managing our inventory. We outsource our manufacturing to third-party manufacturers. Inventory costs are estimated using standard costs, which reflect the cost of historical direct labor, direct overhead and materials used to build our inventory. Cost of services revenue includes direct installation material costs, direct costs from third-party installers, professional service costs, repair fees charged by our outsourced repair contractors to refurbish product returns under an extended warranty or per incident repair agreement, and other miscellaneous costs to support our services.

Acquisition-related expenses—Acquisition-related expenses are primarily related to inventory acquired from Occam that was revalued to its estimated fair value and was amortized to cost of revenue as the inventory was sold. We amortized \$14.2 million related to the revaluation of inventory during 2011. Additionally, we incurred charges of \$5.6 million during 2011 for excess and obsolete inventory resulting from the Occam acquisition.

Amortization of acquired intangible assets—In connection with the acquisitions of Occam in 2011 and OSI in 2006, we recorded amortizable intangible assets of \$30.3 million and \$28.9 million respectively, which included core developed technologies, purchase order backlog and the trade name. These amounts are amortized to cost of revenue over their estimated useful lives. The intangible assets resulting from our acquisition of OSI had been fully amortized during the first quarter of 2011. In addition, we acquired \$16.3 million in-process technology from Occam. At the end of the first quarter of 2012, upon the completion of the research and development efforts associated with this in-process technology, we determined that this technology had a useful life of 5 years and therefore reclassified it as core developed technology and began amortizing this intangible asset to cost of revenue during the second quarter of 2012.

The following table sets forth our cost of revenue (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011 Change		2011 vs 2010 Change	
	2012	2011	2010	\$	%	\$	%
Cost of revenue:							
Products and services	\$ 185,103	\$ 195,698	\$ 168,873	\$(10,595)	(5)%	\$ 26,825	16 %
Acquisition-related expenses	—	19,966	—	(19,966)	(100)%	19,966	100 %
Amortization of intangible assets	7,539	9,552	5,440	(2,013)	(21)%	4,112	76 %
Total cost of revenue	\$ 192,642	\$ 225,216	\$ 174,313	\$(32,574)	(14)%	\$ 50,903	29 %
Gross profit	\$ 137,576	\$ 119,453	\$ 112,730	\$ 18,123	15 %	\$ 6,723	6 %
Gross margin	42 %	35 %	39 %				

2012 compared to 2011: Cost of revenue decreased in 2012 compared with 2011 by \$32.6 million, or 14%, which is due to the fact that we did not incur any associated acquisition-related expenses subsequent to 2011, a decrease in cost of products and service revenues, and a decrease in amortization of intangible assets. The decrease in cost of products

and service revenues was a result of decreased revenue, increased order volumes, and decreased write-down charges for excess and obsolete inventory as a result of improved inventory management

The decrease in amortization of intangible assets in 2012 is primarily attributable to the completion of the amortization of certain intangibles in 2011 that we acquired from Occam and OSI, offset in part by the amortization of the core developed technology that was reclassified from in-process technology in the first quarter of 2012 as discussed above.

Gross margin increased in 2012 compared with 2011, primarily due to the absence of acquisition-related expenses, lower excess and obsolete inventory write-down charges, and lower intangible assets amortization expenses.

Excluding acquisition-related expenses and intangible asset amortization, gross margin increased during 2012 to 44% from 43% in 2011, primarily due to a combination of product mix and cost reductions. In 2012, we shipped more higher margin E-Series platforms as compared to 2011.

2011 compared to 2010: Cost of revenue increased from \$174.3 million to \$225.2 million for the fiscal 2011 compared with the corresponding periods of fiscal 2010, primarily due to an increase in revenues recognized during this period, acquisition-related expenses and the amortization of acquired intangible assets. In addition we experienced a significant increase in the excess and obsolete inventory write-downs in the third quarter of fiscal 2011 primarily due to end of life inventory and excess parts held by us and our contract manufacturer.

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Gross margin decreased during 2011, primarily due to higher acquisition-related expenses and intangible asset amortization when compared to the corresponding period of fiscal 2010. During fiscal 2011, gross margin decreased primarily due to the acquisition-related expenses primarily related to revaluation of inventory acquired in our acquisition of Occam. Excluding acquisition-related expenses and intangible asset amortization, gross margin increased during 2011 to 43% from 41% in 2010, primarily due to cost reductions, change in product mix, and within product mix the introduction of many new products in 2010.

Operating Expenses**Research and Development Expenses**

Research and development expenses represent the largest component of our operating expenses and include personnel costs, consulting services, depreciation on lab equipment, costs of prototypes and overhead allocations. We generally expense research and development costs as incurred, since the costs of software development that we incur after a product has reached technological feasibility are not material. The following table sets forth our research and development expenses (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011		2011 vs 2010	
	2012	2011	2010	Change		Change	
Research and development	\$66,748	\$67,725	\$55,412	(\$977)	(1)%	\$12,313	22%
Percent of total revenue	20%	20%	19%				

2012 compared to 2011: Research and development expenses decreased in 2012 compared with 2011 by \$1.0 million, or 1%, primarily due to a decrease in prototype expenses resulting from the timing of new product development activities, and a decrease in stock-based compensation expense resulting from RSUs granted in a company-wide stock option exchange program, which were fully vested by May 2011. These decreases were offset in part by an increase in compensation expenses due to increased headcount resulting from the acquisition of Ericsson's fiber access assets on November 2, 2012 and the expansion of our China development center.

In connection with our EFAA acquisition that was completed in November 2012, we anticipate that we will incur increased compensation costs within research and development due to additional headcount and increased facility related costs associated with our new San Jose facility. To mitigate this increase in facility expenses, we are actively seeking to sublease our Fremont facility that is estimated to be vacated in March 2013. We are continuing our strategic investments in our Unified Access portfolio. We intend to continue to dedicate significant resources to research and development and to develop new product capabilities to support the performance, scalability and management of our Unified Access portfolio.

2011 compared to 2010: Research and development expenses increased \$12.3 million from \$55.4 million for 2010 to \$67.7 million for 2011, primarily due to an increase in compensation and related costs, including travel-related expenses, from an increase in headcount, and an increase in depreciation and facilities-related expenses resulting from the acquisition of Occam and the expansion of our China development center. In addition we also experienced an increase in prototype and consulting expenses related to new product development and our pursuit of OSMINE certification. This increase was partially offset by a decrease in stock-based compensation expense resulting from RSUs granted in a company-wide stock option exchange program, which began amortizing at the date of our IPO on March 24, 2010, and were fully vested and related stock-based compensation expense recognized by May 2011.

Sales and Marketing Expenses

Sales and marketing expenses consist of personnel costs, employee sales commissions and marketing programs. The following table sets forth our sales and marketing expenses (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011		2011 vs 2010	
	2012	2011	2010	Change		Change	
Sales and marketing	\$62,129	\$55,551	\$42,121	\$6,578	12%	\$13,430	32%
Percent of total revenue	19%	16%	15%				

2012 compared to 2011: Sales and marketing expenses increased in 2012 compared with 2011 by \$6.6 million, or 12%, primarily due to an increase in compensation and related costs, an increase in stock-based compensation

expense, which were primarily driven by an increase in headcount in order to expand our international sales operations.

We will continue our investments in sales and marketing in order to extend our market reach and grow our business in support of our key strategic initiatives.

2011 compared to 2010: Sales and marketing expenses increased \$13.5 million from \$42.1 million for 2010 to \$55.6 million for 2011, primarily due to an increase in compensation and related expenses, including commission and travel-related expenses, from an increase in headcount, and an increase in depreciation and facilities-related expenses resulting from our acquisition of Occam, partially offset by a decrease in corporate bonus plan expense. In addition we experienced an increase in consulting expenses and an increase in marketing expenses mostly related to increased attendance at our User Group and Telco TV events that occurred in the fourth quarter of 2011.

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General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs and costs for facilities related to our executive, finance, human resource, information technology and legal organizations and fees for professional services. Professional services consist of outside legal, tax, and audit services. The following table sets forth our general and administrative expenses (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011		2011 vs 2010	
	2012	2011	2010	Change		Change	
General and administrative	\$26,114	\$27,002	\$27,998	\$(888)	(3)%	\$(996)	(4)%
Percent of total revenue	8	% 8	% 10				

2012 compared to 2011: General and administrative expenses decreased in 2012 compared with 2011 by \$0.9 million, or 3%, primarily due to a decrease in stock-based compensation expense resulting from RSUs granted in a company-wide stock option exchange program, which were fully vested by May 2011. These decreases were offset in part by increases in professional service expenses as well as an increase in compensation and related expenses due to increased headcount.

2011 compared to 2010: General and administrative expenses decreased \$1.0 million from \$28.0 million for 2010 to \$27.0 million for 2011. The decrease was primarily due to a decrease in stock-based compensation expense resulting from RSUs granted in a company-wide stock option exchange program, which began vesting at the date of our IPO on March 24, 2010 and were fully vested in May 2011 and a decrease in corporate bonus plan expense. This decrease was partially offset by an increase in compensation and related costs from increased headcount and facilities-related and depreciation expenses due to the Occam acquisition and a severance payment made to our former chief financial officer in the first quarter of fiscal 2011.

Acquisition-related Expenses

We expense all acquisition-related costs as incurred. These costs generally include outside services for legal and accounting fees, costs associated with consolidating facilities, severance and retention bonuses paid to transitional and certain other employees, and costs for other integration services. The following table sets forth our acquisition-related expenses included in operating expenses (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011		2011 vs 2010	
	2012	2011	2010	Change		Change	
Acquisition-related expenses	\$1,401	\$12,927	\$3,942	\$(11,526)	(89)%	\$8,985	228 %
Percent of total revenue	—	% 4	% 1				

2012 compared to 2011: Acquisition-related expenses for 2012 and 2011 were related to our EFAA acquisition and our Occam acquisition, respectively. The decrease is primarily due to the magnitude and complexity of the Occam acquisition compared to the EFAA acquisition. For the Occam acquisition, we incurred significant expenses associated with legal and professional fees, consolidating facilities, severance payments, salaries paid to transitional Occam employees, and stock-based compensation related to accelerated vesting for certain Occam executives who terminated subsequent to the acquisition date. For the EFAA acquisition, the vast majority of the \$1.4 million acquisition-related expense consisted of one-time payments made to former Ericsson employees who transferred to Calix as a result of the acquisition. We do not expect any additional acquisition-related expenses going forward for the EFAA acquisition.

2011 compared to 2010: The increase in acquisition-related expenses from 2010 to 2011 was due to that we completed the Occam acquisition in 2011 but did not complete any acquisition in 2010. The expenses incurred in 2010 consisted of legal and professional expenses in connection with our effort to acquire Occam.

For more information regarding the aforementioned acquisitions, see Note 2, "Business Combinations" of the Notes to Consolidated Financial Statements included in this Form 10-K.

Amortization of Intangible Assets

In connection with our acquisitions of Occam in 2011 and OSI in 2006, we recorded amortizable intangible assets related to customer relationships of \$51.0 million and \$3.7 million, respectively. These amounts are amortized to

operating expenses over their estimated useful lives. The amortization of intangible assets related to OSI acquisition was completed during the first quarter of 2011. The following table sets forth our amortization of intangible assets expenses included in operating expenses (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011		2011 vs 2010	
	2012	2011	2010	Change		Change	
				\$	%	\$	%
Amortization of intangible assets	\$10,208	\$8,569	\$740	\$1,639	19 %	\$7,829	1,058 %
Percent of total revenue	3 %	2 %	— %				

2012 compared to 2011: Amortization of intangible assets was greater during 2012 due to twelve months of amortization in 2012 compared with ten months of amortization in 2011, as the Occam acquisition was completed on February 22, 2011.

2011 compared to 2010: We recorded amortization expense of \$8.6 million for the fiscal year ended December 31, 2011 and \$0.7 million for the year ended 2010. The amortization of intangible assets related to our acquisition of OSI was completed during the first quarter of 2011.

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The amortization of the intangible assets related to Occam began at the end of February of 2011 and will amortize over their estimated useful lives.

Interest and Other Income (Expense), net

The following table sets forth our interest and other income (expense), net (in thousands, except for percentages):

	Years Ended December 31,			2012 vs 2011 Change		2011 vs 2010 Change	
	2012	2011	2010	\$	%	\$	%
Interest and other income (expense), net							
Interest income	\$15	\$87	\$384	\$(72)	(83)%	\$(297)	(77)%
Interest expense	(185)	(184)	(1,188)	(1)	1 %	1,004	(85)%
Gain on bargain purchase	1,029	—	—	1,029	100 %	—	— %
Change in fair value of preferred stock warrants	—	—	(173)	—	— %	173	(100)%
Other income (expense), net	(3)	92	(12)	(95)	(103)%	104	(867)%
Total interest and other income (expense), net	\$856	\$(5)	\$(989)	\$861	(17,220)%	\$984	(99)%
Percent of total revenue	— %	— %	— %				

2012 compared to 2011: Interest and other income (expense), net, increased by \$0.9 million during 2012 from a net expense of \$5 thousand for 2011 to a net income of \$0.9 million for 2012. This increase was primarily due to a gain on bargain purchase related to the EFAA acquisition. See Note 2, "Business Combinations" of the Notes to the Consolidated Financial Statements in this Form 10-K for more details. The EFAA acquisition resulted in a bargain purchase as Ericsson had been incurring losses in its fiber access business at the time of the acquisition and was therefore motivated to sell the assets of its fiber access assets.

2011 compared to 2010: Interest and other income (expense), net, was a net expense of \$1.0 million for 2010 compared to a net expense of \$5 thousand for 2011. The decrease in the net expense during fiscal 2011, when compared to the corresponding period of 2010 was primarily due to a decrease in interest expense resulting from the repayment of our outstanding loan of \$20.0 million on May 4, 2010. This decrease was partially offset by a decrease in other income resulting from lower cash and investment balances during 2011 compared to 2010.

Liquidity and Capital Resources

We have funded our operations primarily through cash generated from operations and the 2010 initial public offering of our common stock. At December 31, 2012, we had cash and cash equivalents of \$47.0 million, which consisted of deposits held at banks and money market mutual funds held at major financial institutions. We also have a revolving credit facility of \$30.0 million based upon a percentage of eligible accounts receivable. Included in the revolving line are amounts available under letters of credit and cash management services. We are required to pay commitment fees of 0.25% per year on any unused portions of the facility. Any outstanding borrowings under our revolving credit facility bear a variable rate of interest based upon the applicable LIBOR or PRIME rate, which is adjusted based on our leverage ratio. The revolving credit facility matures on June 30, 2013. We intend to obtain a similar revolving credit facility after the current one expires.

The following table presents the cash inflows and outflows by activity during 2012, 2011, and 2010 (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Net cash provided by operating activities	\$27,678	\$14,589	\$9,176
Net cash used in investing activities	(22,179)	(36,409)	(2,288)
Net cash provided by (used in) financing activities	2,513	(5,634)	27,595

Operating Activities

Our operating activities provided cash of \$27.7 million in 2012 and \$14.6 million in 2011. The increase in cash provided by operating activities during 2012 as compared to 2011 was due primarily to a favorable change of \$16.8 million in our operating results after adjustment of non-cash charges, offset partially by a \$3.7 million decrease in net

cash inflow resulting from changes in operating assets and liabilities.

In 2012, non-cash charges were \$43.0 million (the majority of which consist of depreciation and amortization expenses and stock-based compensation expense). Cash inflows from changes in operating assets and liabilities primarily resulted from a \$26.4 million increase in deferred revenue as a result of increased shipments relating to certain RUS-funded contracts, an \$11.3 million decrease in inventory due to improved inventory management, and a \$2.6 million increase in accounts payable due to the timing of inventory receipts and payments. Cash outflows from changes in operating assets and liabilities included primarily a \$13.4 million increase in deferred cost of revenue primarily related to the deferral of certain RUS-funded contracts, a \$13.0 million increase in net accounts receivable due to the timing of sale and billing activities, and a \$0.9 million decrease in accrued liabilities.

In 2011, our operating activities provided cash of \$14.6 million. This resulted primarily from non-cash charges of \$50.4 million (the majority of which consist of stock-based compensation expense, amortization of intangible assets, and depreciation expense) and positive net changes in operating assets and liabilities, largely offset by our net loss of \$52.6 million. Cash inflows from changes in operating assets and liabilities included primarily a net decrease of \$13.7 million in accounts receivable due to strong cash collections, \$8.6 million related to the

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sell through of inventory, an increase in deferred revenue of \$2.8 million due to the deferral of certain RUS funded contracts and \$0.3 million release of restricted cash. These inflows were partially offset by cash outflows from accounts payable of \$7.8 million resulting primarily from payments of accounts payable assumed from Occam and a decrease of \$0.7 million in accrued and other liabilities.

In 2010, our operating activities provided \$9.2 million in cash, which consisted of our net loss of \$18.6 million offset by non-cash charges of \$38.0 million. In addition, cash outflows from changes in operating assets and liabilities included a decrease in deferred revenue of \$11.4 million primarily from the recognition of revenue from one large customer order that had been booked in 2008 and lower overall revenue deferrals from adoption of new accounting rules at the beginning of 2010 offset by an increase in extended warranty revenue deferrals, an increase in inventories of \$6.0 million to support higher business volumes with a wider product mix and in additional receipts of last time buys of component inventory that have been discontinued by suppliers, a decrease in accounts payable of \$4.4 million as we decreased inventory receipts in the last month of the 2010, and a decrease in accrued liabilities of \$2.6 million primarily related to the utilization of customer rebate balances offset by an increase in accrued compensation related to an increase in the corporate bonus plan and vacation balances from significant increases in employee headcount. Cash inflows from changes in operating assets and liabilities included a decrease in deferred cost of goods sold of \$8.7 million related to the decrease in deferred revenue, a decrease in accounts receivable of \$3.6 million due to strong collections, and a decrease in prepaid assets primarily due to IPO related costs reclassified to equity on the close of our initial public offering.

Investing Activities

In 2012, our cash used in investing activities primarily consisted of cash payment of \$12.0 million to complete the acquisition of Ericsson's fiber access assets, and capital expenditures of \$10.2 million primarily as a result of purchases of computer equipment and software.

In 2011, our cash used in investing activities primarily consisted of our acquisition of Occam for \$60.8 million, net of \$33.6 million of Occam cash assumed in the transaction, and capital expenditures of \$7.4 million, partially offset by maturities of marketable securities of \$31.8 million.

In 2010, our cash used in investing activities consisted of capital expenditures of \$5.6 million, which primarily consisted of computer and test equipment, and the purchase of marketable securities of \$79.2 million partially offset by sales and maturities of marketable securities of \$82.5 million.

Financing Activities

In 2012, our financing activities provided cash of \$2.5 million, which consisted of proceeds of \$4.1 million from the issuance of common stock under the employee stock purchase plan ("ESPP") and proceeds of \$0.2 million from the exercises of stock options, offset by \$1.7 million payment of payroll taxes for the vesting of restricted stock units and restricted stock awards.

In 2011, our cash used in financing activities of \$5.6 million primarily consisted of payment of payroll taxes of \$10.4 million for the vesting of restricted stock units, offset by proceeds of \$3.9 million from the issuance of common stock under the employee stock purchase plan or "ESPP" and proceeds of \$0.8 million from the exercise of stock options. The payroll taxes withholding of \$10.4 million for the vesting of the RSUs were net share-settled to cover the required withholding tax and the remaining amount was converted into an equivalent number of shares of common stock. The total shares withheld were approximately 485,000, which was based on the value of the RSUs on their vesting date as determined by our closing stock price.

In 2010, our financing activities provided cash of \$27.6 million, which primarily consisted of net proceeds of \$57.3 million from our IPO partially offset by the repayment of a term loan of \$20.0 million. On May 4, 2010, we paid the outstanding loan payable to SVB of \$20.0 million in its entirety including outstanding accrued interest and prepayment penalties of \$0.4 million. Additionally, we paid payroll taxes of \$7.8 million for the vesting of 50% of the restricted stock units or RSUs, that had been exchanged for stock options held by employees in 2009 and \$2.2 million for other RSUs that vested during the year ended 2010. Upon vesting, the RSUs were net share-settled to cover the required withholding tax and the remaining amount was converted into an equivalent number of shares of common stock. The total shares withheld were approximately 737,000, which was based on the value of the RSUs on their vesting date as determined by our closing stock price.

Working Capital and Capital Expenditure Needs

Except as disclosed in the Contractual Obligations and Commitments section below, we currently have no material cash commitments, except for normal recurring trade payables, expense accruals, operating leases and firm purchase commitments. In addition, we believe that our outsourced approach to manufacturing provides us significant flexibility in both managing inventory levels and financing our inventory. We may be required to issue performance bonds to satisfy requirements under our RUS-funded contracts. We issue letters of credit under our existing credit facility to support a portion of these performance bonds. In the event we do not have sufficient capacity under our credit facility to support these bonds, we will have to purchase certificates of deposit, which could materially impact our working capital or limit our ability to satisfy such contract requirements. As of December 31, 2012, we had outstanding letters of credit totaling \$3.3 million and there was approximately \$26.7 million available for borrowing under our revolving credit facility. At December 31, 2011, we had cash of \$0.8 million restricted for the issuance of surety performance bonds we acquired through our acquisition of Occam. At December 31, 2012, there were no restrictions on our cash. In the event that our revenue plan does not meet our expectations, we may eliminate or curtail expenditures to mitigate the impact on our working capital.

We believe based on our current operating plan, our existing cash, cash equivalents and existing amounts available under our revolving line of credit will be sufficient to meet our anticipated cash needs for at least the next twelve months. Our future capital requirements will depend on many factors including our rate of revenue growth, the timing and extent of spending to support development efforts, the

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expansion of sales and marketing activities, the timing of introductions of new products and enhancements to existing products, the acquisition of new capabilities or technologies and the continued market acceptance of our products. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital when desired, our business, operating results and financial condition would be harmed.

Contractual Obligations and Commitments

Our principal commitments consist of obligations under operating leases for office space and non-cancelable outstanding purchase obligations. The following table summarizes our contractual obligations at December 31, 2012 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 year	1-3 Years	4-5 Years	More Than 5 years
Operating lease obligations ⁽¹⁾	\$ 10,598	\$4,255	\$3,914	\$1,869	\$560
Non-cancelable purchase commitments ⁽²⁾	10,318	10,318	—	—	—
Total	\$20,916	\$14,573	\$3,914	\$1,869	\$560

(1) The total minimum payments under our operating lease obligations have not been reduced by minimum sublease rentals of \$0.3 million due in the future under non-cancelable sublease of a portion of our office in Fremont, California.

(2) Represents outstanding non-cancelable purchase orders for finished goods to be delivered by our contract manufacturers.

Future minimum operating lease obligations in the table above include payments for our primary office space in Petaluma, California, and for our facilities in Minneapolis, Minnesota; Acton, Massachusetts; Nanjing, China; Richardson, Texas; and Fremont, San Jose, and Santa Barbara, California, which expire at various dates through 2018, and for certain office equipment under non-cancelable operating lease agreements, obtained through our acquisition of Occam, which expire at various dates through 2015. A portion of the office in Fremont, California is sublet under a sublease expiring in 2015. We are also actively seeking to sublease the remainder of our Fremont office that is estimated to be vacated in March 2013. A lease agreement for our office in San Jose, California, was entered into in November 2012, and expires in August 2018.

On January 28, 2013, the Company entered into an amendment to its lease agreement (the "Amendment") for its primary office space in Petaluma, California, to extend the lease term from February 2014 to February 2019 under a new base rent schedule effective February 1, 2013. The total minimum future payment commitment under this Amendment is approximately \$5.6 million and is not included in the table above.

Off-Balance Sheet Arrangements

As of December 31, 2012 and December 31, 2011, we did not have any off-balance sheet arrangements.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk**Interest Rate Risk**

The primary objectives of our investment activity are to preserve principal, provide liquidity and maximize income without significantly increasing risk. By policy, we do not enter into investments for trading or speculative purposes. At December 31, 2012, we had cash and cash equivalents of \$47.0 million, which was held primarily in cash or money market funds. Due to the nature of these money market funds, we believe that we do not have any material exposure to changes in the fair value of our cash equivalents as a result of changes in interest rates.

Our exposure to interest rate risk also relates to the amount of interest we must pay on our outstanding debt instruments. Any outstanding borrowings under our revolving credit facility bear a variable rate of interest based upon the applicable LIBOR or PRIME rate, which is adjusted based on our leverage ratio. As of December 31, 2012, we had no outstanding borrowings under the revolving credit facility.

Foreign Currency Exchange Risk

In our view, our primary foreign currency exposures are economic, translation, and transaction.

Economic Exposure

The direct effect of foreign currency fluctuations on our sales and expenses have not been material because they are primarily denominated in U.S. dollars. However, we are indirectly exposed to changes in foreign currency exchange rates to the extent of our use of foreign contract manufacturers whom we pay in U.S. dollars. Changes in the local currency rates of these vendors in relation to the U.S. dollar could cause an increase in the price of products that we purchase. Additionally, if the U.S. dollar strengthens relative to other currencies, such strengthening could have an indirect effect on our sales to the extent it raises the cost of our products to non-U.S. customers and thereby reduces demand. A weaker U.S. dollar could have the opposite effect. The precise indirect effect of currency fluctuations is difficult to measure or predict because our sales are influenced by many factors in addition to the impact of such currency fluctuations.

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Translation Exposure

Our sales contracts are primarily denominated in U.S. dollars and, therefore, the majority of our revenues are not subject to foreign currency risk. We are directly exposed to changes in foreign exchange rates to the extent such changes affect our expenses related to our foreign assets and liabilities with our subsidiary in China and the United Kingdom, whose functional currencies are the Chinese Renminbi and Great British pound sterling, respectively. Our operating expenses are incurred primarily in the United States, with a small portion of expenses incurred in China associated with our research and development operations that are maintained there, and in the United Kingdom for our sales and services office there. Our operating expenses are generally denominated in the functional currencies of our subsidiaries in which the operations are located. For 2012, approximately 93% of our operating expenses were U.S.-dollar denominated, and 4% and 3% of our expenses were denominated in British pound and Chinese RMB, respectively. Assuming the same currency exchange rates as last year, the negative impact on our 2012 operating results was approximately \$62 thousand. If the currencies noted above uniformly fluctuated by plus or minus 10% from the exchange rates as of December 31, 2012, the change in our results of operation for 2013 would be immaterial. We do not currently enter into forward exchange contracts to hedge exposure denominated in foreign currencies or any derivative financial instruments. In the future, we may consider entering into hedging transactions to help mitigate our foreign currency exchange risk.

Foreign exchange rate fluctuations may also adversely impact our financial position as the assets and liabilities of our foreign operations are translated into U.S. dollars in preparing our Consolidated Balance Sheets. The effect of foreign exchange rate fluctuations on our consolidated financial position for the year ended December 31, 2012 was a net translation gain of approximately \$34 thousand. This gain is recognized as an adjustment to stockholders' equity through accumulated other comprehensive income.

Transaction Exposure

We have certain assets and liabilities, primarily receivables and accounts payable (including inter-company transactions) that are denominated in currencies other than the relevant entity's functional currency. In certain circumstances, changes in the functional currency value of these assets and liabilities create fluctuations in our reported consolidated financial position, cash flows and results of operations. Transaction gains and losses on these foreign currency denominated assets and liabilities are recognized each period within other income (expense), net in our Consolidated Statements of Comprehensive Loss. During the year ended December 31, 2012, net loss we recognized related to these foreign exchange assets and liabilities was approximately \$21 thousand.

ITEM 8. Financial Statements and Supplementary Data.

<u>Report of Independent Registered Public Accounting Firm</u>	<u>50</u>
<u>Consolidated Balance Sheets, As of December 31, 2012 and 2011</u>	<u>51</u>