

# CRAY®

Annual Report 2016



COMPUTE | STORE | ANALYZE

Cray customers build amazing products, solve complex problems and make fantastic discoveries. They comprise a wonderful community with a vast impact on everyday life. Our front cover this year celebrates five of these amazing achievers.

From left: Dr. William Loging of Mt. Sinai Hospital is improving drug discovery success rates through better understanding of precision therapies; University of Illinois at Urbana-Champaign researchers Yan Liu and Wendy K. Tam Cho are analyzing the fairness of electoral district boundaries; Sverre Brandsberg-Dahl and PGS are generating high-resolution 3-D seismic images that more accurately locate oil and gas resources; Helen Roberts and the Met Office are safeguarding lives and livelihoods with advanced weather forecasts; and Dr. Laura Boykin of the University of Western Australia and Dr. Titus Alicai of Uganda's NaCRRRI are fighting famine in East Africa.

Fellow Shareholders,

2016 was a solid year for Cray, highlighted by continued momentum in our high-end business and completion of several of the largest, most complex supercomputing and storage systems we have ever built. We refreshed our product line-up and delivered the second-highest annual revenue total in our history, as well as another year of profitability. We delivered all of this despite our primary market experiencing a slowdown, which is continuing today but which we believe will be temporary in nature as long-term growth prospects appear strong. As you are likely aware, due to the nature of our high-end business, our revenue tends to be lumpy on a quarterly basis, and at times even on an annual basis. However, if you step back and take a longer view, we have clearly been on a strong revenue growth path over the past several years. In fact, our revenue has grown at more than 10% per year on a compounded basis since 2009 – largely driven by the strength of our solutions serving a growing set of users and markets.

We remain focused on three key markets: supercomputing, storage and analytics, each spanning our traditional government and academic customer base as well as commercial markets including energy, manufacturing, financial services and healthcare/life sciences. As digital data continues to expand at ever-increasing rates, the need for high-performance solutions to compute, store and analyze this data also increases. Our position at the high-end of each of these markets gives us unique perspective and focus. We are delivering solutions that enable our customers to gain new insights into their information, leveraging large scale modeling and simulation combined with data analytics and artificial intelligence, as these computing methods continue to converge over time. Several trends are driving this convergence, including the sheer growth of data and the desire to streamline and enhance the analysis process, as well as the potential for significant performance improvement through converged offerings which will ultimately help customers make better decisions faster.

We take great pride that Cray systems are being used to improve life on our planet every day. Some examples of this work are highlighted in the images on the front of this annual report, including Dr. William Logging of Mt. Sinai Hospital, who is improving drug discovery success rates; University of Illinois at Urbana-Champaign researchers Wendy K. Tam Cho and Yan Liu, who are analyzing the fairness of electoral district boundaries; Sverre Brandsberg-Dahl and PGS, who are generating high-resolution three-dimensional seismic images that more accurately locate oil and gas resources; Helen Roberts and the U.K. Met Office, who are safeguarding lives and livelihoods with advanced weather forecasts; and Dr. Laura Boykin of the University of Western Australia and Dr. Titus Alicai of Uganda's NaCRRI, who are fighting famine in East Africa. We're proud to partner with these amazing people in their lifechanging work.

For the supercomputing market, we have two primary offerings: our XC-line of supercomputers and our CS-line of highly flexible clusters. Our XC-line is the most powerful, highest-performance system we have ever built, able to scale real-world scientific, engineering and data intensive applications to the highest levels in the industry. The XC system harnesses the Cray Aries high-performance system interconnect as well as the latest Intel Xeon processors, Intel Xeon Phi coprocessors and Nvidia Tesla GPU accelerators, along with a tightly-integrated, highly productive software stack. Our CS-line of clusters delivers industry standards-based, highly customizable systems expressly designed to handle the broadest range of medium- to large-scale workloads. We bring all of this together in our Adaptive Supercomputing vision, which enables the configuration of different processors in a single, hybrid supercomputer, ensuring users have the best system for a wide variety of workloads and applications.

We installed numerous Cray systems around the world during 2016, including several that now rank among the fastest in the world. Among these were new petascale XC supercomputers at several U.S. Department of Energy laboratories, including Argonne National Laboratory, Lawrence Berkley National Laboratory, and a joint project between Los Alamos National Laboratory and Sandia National Laboratory.

We also have two unique storage offerings; the Sonexion scale-out Lustre storage system, and Data Warp, a layer of non-volatile solid-state storage that sits between the compute memory and parallel file system to dramatically improve application performance. Together these solutions drive improved performance, scalability and total cost of ownership, as well as provide a clear path to future generations of new storage and memory technologies.

We launched an entirely new analytics solution in 2016, the Urika-GX big data platform. The Urika-GX fuses some of our most unique supercomputing technology with an open, standards-based software framework to deliver the industry's first agile analytics platform. Market reaction to the Urika-GX has been positive and we installed new Urika solutions at several government institutions and national laboratories, as well as commercial customers in life sciences, marketing and customer engagement, and a European automotive consortium. It is exciting to see customers leveraging our supercomputing systems and technology in new ways as we expand into this big and fast moving new market.

We remain focused on three primary strategic goals as a company: first, to grow revenue faster than the markets in which we compete; second, to grow the percentage of our revenue that comes from the commercial markets to more than one-third of our total revenue; and third, to expand our presence in the big data market to drive more than one-third of our revenue over time. We aim to achieve these goals while also expanding our profitability over time. While the slowdown in our target market is impacting our visibility for 2017, we expect it to rebound over time as the market's long-term growth drivers appear firmly intact. As such, we are continuing to make investments in our products and services to expand our strong competitive position and our long-term opportunity to drive growth.

Among these are targeted investments in big data analytics and artificial intelligence, and especially in deep learning, which can benefit greatly from supercomputing technology. Deep learning has demonstrated tremendous utility in creating predictive computer models from ever-growing volumes of data, and is being rapidly deployed across many industries and markets. As data volumes and model complexity continue to grow, the deep learning training problem requires increasingly powerful computing systems, scaling to large node counts with very strong system interconnects and fast storage systems. Our CS and XC supercomputers are ideally suited for these workloads.

An example of this is a partnership we have with Microsoft and the Swiss National Supercomputing Center to scale Microsoft's Cognitive Toolkit to an unprecedented 2,000 Nvidia Pascal P100 GPUs on a Cray XC50 system. This is a great proof point of how deep learning is part of the growing convergence of data analytics and supercomputing, a focus of ours over the past several years. We have also increased our investments to enable our systems to be leveraged in cloud computing environments. An exciting example of this is our partnership with Deloitte's Advisory Cyber Risk Services, which we launched in 2016 to deliver the first commercially available high-speed threat analytics service, powered by a Cray supercomputer.

Finally, we recently added a new leader to our team, Stathis Papaefstathiou, who joined us as our senior vice president of R&D, replacing Peg Williams who is retiring. With more than 30 years of high-tech experience, Stathis brings a diverse technical background including network hardware, high performance computing, embedded operating systems, cloud-enabled network management solutions, and big data analytics. We are pleased to welcome him and all our new employees to the Cray team and wish Peg the best in retirement after many years of strong contributions not only to Cray but the entire HPC industry.

On behalf of our board of directors and management, I would like to thank all our customers, partners, employees and shareholders for your continued confidence and support of Cray.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter J. Ungaro". The signature is fluid and cursive, written in a professional style.

Peter J. Ungaro  
President and Chief Executive Officer

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## FORM 10-K

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

For the Fiscal Year Ended December 31, 2016

**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: 000-26820

### CRAY INC.

(Exact Name of Registrant as Specified in Its Charter)

Washington

93-0962605

(State or Other Jurisdiction of  
Incorporation or Organization)

(I.R.S. Employer  
Identification No.)

901 Fifth Avenue, Suite 1000

98164

Seattle, Washington

(Zip Code)

(Address of Principal Executive Offices)

Registrant's telephone number, including area code:

(206) 701-2000

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class

Name of Each Exchange on Which Registered

Common Stock, \$.01 par value

Nasdaq Stock Market LLC

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

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

Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act: Yes  No

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 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  Smaller reporting company

(Do not check if a smaller reporting company)

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

The aggregate market value of the Common Stock held by non-affiliates of the registrant as of June 30, 2016, was approximately \$1,190,600,995 based upon the closing price of \$29.92 per share reported on June 30, 2016, on the Nasdaq Global Market.

As of February 6, 2017, there were 40,736,378 shares of Common Stock issued and outstanding.

#### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement to be delivered to shareholders in connection with the registrant's Annual Meeting of Shareholders to be held on or around June 13, 2017, are incorporated by reference into Part III.

**CRAY INC.**  
**FORM 10-K**  
**For Fiscal Year Ended December 31, 2016**

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## **Forward-Looking Statements**

This annual report on Form 10-K contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or if they prove incorrect, could cause our actual results to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to them. In some cases you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expect," "plans," "anticipates," "believes," "estimates," "projects," "predicts" and "potential" and similar expressions, but the absence of these words does not mean that a statement is not forward-looking. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, and examples of forward-looking statements include any projections of earnings, revenue or other results of operations or financial results; any statements of the plans, strategies, objectives and beliefs of our management; any statements concerning proposed new products, technologies or services; any statements regarding potential new markets or applications for our products; any statements regarding technological developments or trends; any statements regarding future research and development or co-funding for such efforts; any statements regarding future economic conditions; and any statements of assumptions underlying any of the foregoing. These forward-looking statements are subject to the safe harbor created by Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in Item 1A. Risk Factors in Part I and other sections of this report and our other filings with the U.S. Securities and Exchange Commission, or SEC, or Commission. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this report. You should read this report completely and with the understanding that our actual future results may be materially different from what we expect. We assume no obligation to update these forward-looking statements, whether as a result of new information, future events, or otherwise.

## PART I

### Item 1. *Business*

#### General

We design, develop, manufacture, market and service the high-end of the high performance computing, or HPC, market, primarily categories of systems commonly known as supercomputers and provide data analytics, artificial intelligence and storage solutions leveraging more than four decades of delivering the world's most advanced compute systems. We also provide software, system maintenance and support services and engineering services related to supercomputer systems and our data analytics, artificial intelligence and storage solutions. Our customers include domestic and foreign government and government-funded entities, academic institutions and commercial entities. Our key target markets are the supercomputing portion of the HPC market and the expanding big data markets. We provide customer-focused solutions based on three main models: (1) tightly integrated supercomputing and/or storage solutions, complete with highly tuned software, that stress capability, scalability, sustained performance and reliability at scale; (2) differentiated "cluster" supercomputing and storage solutions based upon utilizing best-of-breed components and working with our customers to define solutions that meet specific needs; and (3) integrated solutions that combine industry standard tools for large-scale analytics and artificial intelligence applications, as well as innovative graph analysis tools, and specialized computing platforms. All of our solutions also emphasize total cost of ownership, scalable price-performance and data center flexibility as key features. Our continuing strategy is to gain market share in the supercomputer market segment, extend our technology leadership and differentiation, maintain our focus on execution and profitability and grow by continuing to expand our share and addressable market in areas where we can leverage our experience and technology, such as in high performance storage systems and powerful analytic tools for large volumes of data, popularly referred to as "big data." We also meet diverse customer requirements by combining supercomputing, cluster supercomputing and big data technologies described above, into unique solutions offerings that work in a workflow-driven datacenter environment.

We were incorporated in the State of Washington in December 1987 under the name Tera Computer Company. We changed our corporate name to Cray Inc. in connection with our acquisition of the Cray Research, Inc. operating assets from Silicon Graphics, Inc. in 2000. Our corporate headquarters are located at 901 Fifth Avenue, Suite 1000, Seattle, Washington 98164. Our telephone number is (206) 701-2000 and our website address is [www.cray.com](http://www.cray.com). The contents of our website are not incorporated by reference into this annual report on Form 10-K or our other SEC reports and filings.

#### Products, Services and Customer Support

We concentrate on building product solutions for our customers in two major markets: the supercomputing portion of HPC; and big data, including data analytics and storage. We also provide a range of service offerings around these products that leverage our high quality support and intimate understanding of our customers and their requirements.

##### *Cray Supercomputing Systems*

Our supercomputing products span a broad performance spectrum and address the critical computing resource challenges HPC users face today: achieving massive scaling to tens of thousands of processors; ease of use for high productivity; and very high levels of sustained performance on real applications. We achieve this by designing and integrating supercomputers that combine highly capable processors, high speed interconnect technology for maximum communication efficiency and innovative packaging to address increased density, processor power requirements, upgradability, energy efficiency and reliability requirements. In addition, we include scalable system software that significantly enhances performance, productivity and manageability at supercomputing scale. With our "Adaptive Supercomputing" vision, we have expanded the concept of heterogeneous computing to a fully integrated view of hardware and software supporting both multiple processing technologies and diverse workloads.

Our supercomputers are the result of our Adaptive Supercomputing vision that integrates diverse technologies into a unified architecture enabling customers to match the computational solution to the need. Our systems utilize components and technologies designed to support the requirements of the most demanding HPC users. Our XC series supercomputers, comprising the XC40 and XC50, are designed to provide significantly higher sustained performance on many important applications that require the highest levels of scaling, with substantial performance improvements over competing solutions. Our CS series of supercomputer cluster solutions (including CS400 and CS-Storm) emphasize flexibility, capacity and custom design and integration for compute-intensive customer needs. All of our supercomputers are designed to enable HPC users to focus on their primary objectives, including advancing scientific discovery, increasing industrial capabilities, providing predictive analyses and improving national security.

Our supercomputer systems are designed to offer a variety of additional benefits, including:

- superior price-performance compared to other supercomputer systems as well as compared to enterprise computing solutions and cloud computing solutions;



- productivity, quality, reliability and resiliency at the highest scale;
- the Aries Network proven to scale to the world's fastest supercomputers for HPC and Data Science workloads;
- support for open standards, including Linux-based operating systems, Linux containers, open file systems (e.g., Lustre®), open programming models (e.g., MPI, PGAS, Shared Memory, OpenMP and OpenACC) and popular programming languages such as Python, Scala and R in addition to traditional HPC languages such as Fortran, C and C++ and new languages such as Chapel;
- upgrade paths that enable customers to leverage their investments over longer periods of time and thereby reduce total costs of ownership;
- integrated operating system software and Cray programming environment, including energy aware features;
- excellent energy efficiency optimized for minimum energy consumed to solution;
- flexibility of processor type, memory, network configuration, storage configuration and system software tools developed towards our Adaptive Supercomputing vision; and
- the Cray service experience, that brings with it a proven research and development team and a global sales and service organization dedicated to the needs of HPC users.

We expect the continued advancement of many-core and accelerator processors, as well as changing memory and storage hierarchy to be advantageous trends for Cray as they complement our technical strengths in networking, scaling, system software and cooling and power management technologies. The growing number of cores on each processor continues to amplify the scaling issues that customers face today, and accelerators or coprocessors will further stress the system's communications network. We believe our balanced approach to system design and support for innovative parallel programming methodologies will become increasingly critical in enabling customers to take advantage of the benefits of many-core processing.

*Cray XC Series Supercomputer.* The Cray XC series supercomputer is our highly integrated supercomputing system. The Cray XC series system delivers on our commitment to our Adaptive Supercomputing architecture providing extreme scale and sustained performance. The Cray XC series system provides the HPC user community the advantage of the computational resources of our supercomputers powered by the Intel Corporation, or Intel, Xeon E5 family of processors combined with the Aries interconnect, providing a flexible and unique Dragonfly network topology, our robust and fully-integrated software environment and innovative power and cooling technologies. In addition, the Cray XC family of supercomputers has been expanded to include Intel Xeon Phi coprocessors and NVIDIA Corporation, or NVIDIA, graphics processor units, or GPUs.

The Cray XC series supercomputer utilizes the Cray Linux Environment, which has been enhanced and hardened over more than a decade on Cray supercomputing systems. Customers may buy a single Cray XC series supercomputer to run both a highly scalable custom workload as well as an industry-standard, independent software vendor workload. The Cray XC series system includes our powerful compiler, runtime and related software that allows users to transparently leverage the underlying hardware components. The Cray XC series system supports a variety of applications, from carefully optimized Fortran and C++ applications, to modern applications written in languages like Python and Scala, to applications written in Cray's Chapel parallel programming language designed to make parallel programming more productive and more generally accessible. Applications can run natively in the Cray Linux Environment or can leverage Docker virtualization technologies familiar to cloud and enterprise application developers.

The Cray XC40-AC supercomputer, an air-cooled cabinet option, offers customers the full Cray XC series experience in an enterprise optimized footprint and scale. The system utilizes the exact same interconnect, blade options and software stack as its larger liquid-cooled sibling, but is available in smaller starting configurations with a variety of input power options designed to work in virtually any data center.

*Cray CS400 Supercomputer.* The Cray CS400 cluster supercomputing system offers an energy-efficient, air-cooled architecture featuring high performance, high availability computing. It includes flexible configuration options for a wide range of data center cooling architecture requirements through the use of air or chilled cooling rear door heat exchangers. The Cray CS400 system is integrated with the HPC Software Stack, software tools compatible with most open source and commercial compilers, tools, schedulers and libraries to run complex applications. This solution supports both Cray and third-party systems management software solutions.

*Cray CS-Storm Supercomputer.* The CS-Storm supercomputer is a purpose-built solution employing GPUs in a high density architecture to deliver industry leading performance, density and energy efficiency for highly data-parallel computations. The Cray CS-Storm combines an innovative architecture design that supports up to eight GPUs per compute node running at full power, with

the same production software environment available on the CS400 products. Market segments such as finance, energy, government, earth sciences and higher education utilize GPU-accelerated applications that benefit significantly from the CS-Storm architecture. A CS-Storm supercomputer chassis may also be incorporated within a CS400 cluster supercomputer. The software stack, programming environment and management infrastructure are shared, making such integration seamless.

### ***Cray Analytics Products***

Our analytics products apply supercomputing technologies to solve the most challenging data analytics use-cases, with performance at scale. The huge growth in data volumes and data complexity as well as the development of advanced analytic techniques and increased time-to-value expectations are driving the need for supercomputing class architectures. Our experience building some of the largest supercomputers in the world enables us to bring high performance, data-intensive, memory-centric architectures to the big data market through our Urika platform.

*Cray Urika-GX Platform.* Urika-GX is the first agile analytics platform architected for production-class big data analytics workloads. Urika-GX's turnkey architecture comes pre-integrated with Apache Hadoop® and Apache Spark™ frameworks as well as Cray's high-performance graph database called the Cray Graph Engine. Urika-GX is versatile and open to support additional emerging tools in the big data ecosystem. Urika-GX enables users to consolidate multiple computing workloads ranging from data integration, machine learning, interactive data exploration, visualization, iterative algorithms and more onto a single analytics platform. Urika-GX customers are able to optimize their analytics pipelines and data movement activities while reducing the footprint of their analytics infrastructure. The Urika-GX platform delivers performance and reliability on a wide range of analytics applications, thereby lowering total cost of ownership on production data analytics.

Urika-GX system features Intel® Xeon® E5 processors, up to 22 terabytes of DRAM memory, up to 176 terabytes of local SSD storage capacity, and the high speed Aries network interconnect, which together provide leading in-memory compute and network performance necessary to solve the most demanding big data problems. An exclusive feature of the Urika-GX system is the Cray Graph Engine for fast, complex pattern matching and iterative discovery. With the Cray Graph Engine, customers are able to tackle multi-terabyte datasets comprised of billions of objects to uncover hidden relationships in even the noisiest of data. The Cray Graph Engine can run in conjunction with open analytics tools such as Hadoop and Spark, enabling customers to build complete end-to-end analytics workflows and avoid unnecessary data movement.

### ***Cray Storage and Data Management Products***

Our storage and data management products include integrated data storage and data management solutions designed for supercomputing and big data workloads. Our solutions leverage years of experience delivering high-performance parallel storage and file systems to leading edge customers. Our customers are able to rapidly deploy highly scalable and extremely fast file systems that integrate with computing solutions ranging from third-party clusters and Cray cluster supercomputers to highly integrated supercomputers.

*Cray Sonexion Storage Systems.* Our flagship storage product line, the Cray Sonexion, embeds the Lustre parallel file system and other software in an optimal configuration to reduce deployment time while increasing reliability, capacity and performance. Cray Sonexion offers an optimal combination of modular scaling capacity from terabytes to petabytes and sustained I/O performance from several gigabytes per second to over one terabyte per second in a single file system. High density is achieved through reducing storage componentry and cabling. Sonexion systems are engineered to be installed and put into production more quickly than other HPC storage solutions and can be attached to Cray XC and Cray CS series systems, as well as industry-standard Linux clusters.

*Cray DataWarp Applications Accelerator.* Our DataWarp technology addresses a key problem experienced by supercomputing customers: Disk based storage input/output, or I/O, has not kept up with Moore's Law and delivering sustainable performance on a spectrum of applications with varying I/O-intensive workloads has become costly and impractical. DataWarp provides a new tier of storage featuring SSD and in-memory flash that is tightly integrated with Cray XC series supercomputing resources. DataWarp supports high application I/O requirements while reducing overall application computing time for I/O-intensive workloads. Production customers have seen almost two terabytes per second of I/O capacity with DataWarp while having the ability to make scientific discoveries faster.

### ***Engineering and Customer Support***

*Custom Engineering.* To address those users whose needs cannot be met through our standard product offerings, we provide an alternative. Our custom engineering business leverages our amassed intellectual property and technology portfolio, deep domain expertise and know-how to design and build solutions and services designed to match a customer's specific needs. The need for a unique solution often stems from special processing needs that are often performance, application or capacity related; special

environmental needs that might include special size dimension, weight, power and cooling limitations; or unique interface or system software and integration requirements.

*Customer Support.* Our worldwide customer support organization delivers to our customers the “Cray experience” that provides us with a competitive advantage. We believe that the quality of our customer support personnel plays an important role in our ability to maintain long-term customer relationships. Support services are important to our customers, and in many cases we locate our support personnel at or near customer sites globally, supported by a central service organization. Our support services include hardware and software maintenance in support of our systems, applications support, installation project management, system installation and de-installation, site preparation and technical training for our systems. In addition, we offer ancillary services in application consulting, third-party software support, site engineering, on-site analysts for defined projects and specialized training. In 2016, maintenance and support revenue accounted for roughly \$108 million of our total revenue. Our support arrangements generally provide for support services on an annual basis, although several cover multiple years. While most customers pay for support on an annual basis, others pay on a monthly, quarterly or multi-year basis. Typically, customers may select levels of support and response times, ranging from delivery of parts only, to 24 x 7 coverage with two-hour response times.

### **Sales and Marketing**

We focus our sales and marketing activities on both horizontal and vertical marketing activities ranging from government agencies or funded research laboratories, to academic institutions and commercial entities requiring HPC, big data systems and storage. Our primary sales model is direct, and we offer solutions through a highly-trained direct sales force that operates throughout North America, South America, Asia, Europe, the Middle East, Australia and Africa. More than half of our sales force is located in the United States and Canada, with the remainder overseas.

A formal request-for-proposal process for HPC systems or technology drives a majority of our highest-end systems sales and engineering service engagements in the academic and government markets. We utilize pre-sales technical experts to develop technical proposals that meet customer requirements and benchmarking teams to demonstrate the advantages of our particular supercomputing products or service being proposed. For a majority of our larger sales opportunities, the proposal process, including establishing system size, options, pricing and other commitments, involves a number of resources outside of our sales organization. While we often tailor our supercomputer (including cluster) solutions for individual customers, there is substantial commonality in the underlying components and systems, allowing us to leverage manufacturing and supply chain operations.

Government agencies and government-funded scientific research institutions around the world comprise a large portion of our customer base. Our government programs’ efforts are an integral part of our overall strategy by actively managing our relationship with U.S. government agencies and Congress.

Our marketing staff is primarily responsible for product marketing, marketing communications and segment marketing. Product marketing bridges our research and development organization and our sales staff to help ensure that our products meet the demands and requirements of our key customers and a broader market set of prospects for our HPC and big data business and our new business initiatives. Marketing communications focus on our overall brand messaging, advertising, public relations, social media, conferences, trade shows and direct as well as online marketing campaigns to create brand awareness and generate demand. Segment marketing focuses on providing products and services to specific customer sets, such as earth sciences, energy, financial services, manufacturing and life sciences.

### **Our Technology**

We are dependent on the successful early identification, development and timely introduction of new products and capabilities. Our research and development activities include identification of new trends, technologies and workload needs in the ever changing HPC and big data markets, and then leveraging this research in the design of system architectures, hardware and software necessary to implement our expanding product portfolio to address customer needs.

#### ***Product Architectures***

Our product portfolio covers a breadth of architectures including tightly integrated massively parallel supercomputers, highly flexible and configurable cluster supercomputers, purpose-built big data analytics products and world class storage and data management solutions.

#### ***Hardware***

We have extensive experience in the definition, design and integration of the hardware components required of HPC system solutions. This includes processors, board design, memory, storage, network and interconnect technologies, I/O subsystems, power,

cooling and packaging infrastructures, along with the low-level hardware system software required to manage key components. The majority of our hardware research and development investments are in the following areas:

- *Compute and storage architectures, high-speed interconnect and board integration and design.* Integration of a variety of processor, volatile and nonvolatile memory hierarchies and network devices using a combination of custom and industry standard printed circuit boards, high-density connectors, carefully chosen transmission and storage media and optimized topologies.
- *Power, packaging and cooling.* We use a variety of dense packaging techniques in order to produce systems with superior performance, socket densities and energy efficiency. This packaging combines industry standard and custom-designed technologies in the areas of printed circuit board assemblies, power distribution and liquid and air cooling.

### **Software**

We have extensive experience in designing, developing and adapting system software such as the operating system, system management, optimized data management, movement and analysis, as well as programming environment software as an integral aspect of our product portfolio and distributing that software as part of system sales. Our software research and development experience includes operating system optimizations and scalable hardware control, monitoring and management, including power control, monitoring of environmental data, and hardware diagnostics. Our integrated system software together provides Reliability, Availability and Serviceability, or RAS, for Cray systems. The Cray programming environment includes our own and commercially available third-party compilers, communication and scientific libraries as well as a rich suite of application development tools and software for achieving the best possible application performance.

Additionally, we research innovative software for advanced analytics at scale, including industry leading graph analytics and associated algorithms for discovering previously unknown insights from large, disparate data sets, as well as optimizations to Hadoop and Spark for performance and manageability at scale. Our research includes techniques and optimizations to scale advanced analytics across distributed scalable systems, and in large, shared memory architectures.

When necessary, we purchase or license certain software and technologies from third parties to meet certain specific customer requirements, while focusing our own resources where we believe we add the highest value.

For information relating to amounts spent on research and development, see *Note 18 - Research and Development* in the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K.

### **Manufacturing and Supply Chain**

We subcontract the manufacture of a majority of the hardware sub-assemblies and certain components for our high-end products and custom-engineered systems, including integrated circuits, printed circuit boards, connectors, cables and power supplies, on a sole or limited source basis to third-party suppliers. We use contract manufacturers to assemble certain components. Our manufacturing strategy currently centers on build-to-order systems, focusing on obtaining competitive assembly and component costs while concentrating our resources on the final assembly, test and quality assurance stages to ensure a positive customer experience. This strategy allows us to avoid the large capital commitment and overhead associated with establishing full-scale manufacturing facilities, helps us to maintain the flexibility to adopt new technologies as they become available without the risk of equipment obsolescence, provides near real-time configuration changes to exploit faster and/or less expensive technologies and provides a higher level of large scale system quality. We perform final system integration, testing and quality checkout of our systems. Our manufacturing personnel are located in Chippewa Falls, Wisconsin. We work closely with a supplier to provide integrated and tested Cray Sonexion storage products.

Our systems designed for the supercomputer market segment and our custom-engineered solutions incorporate components that are available from single or limited sources, often containing our design input or proprietary designs. Such components include integrated circuits, interconnect systems and certain memory devices. Prior to development of a particular product, components are typically competitively bid to a short list of technology partners. The technology partner that provides the highest value solution for the component is often awarded the contract for the life of the component. Once we have engaged a technology partner, changing our product designs to utilize another supplier's integrated circuits or custom components can be a costly and time-consuming process. We also have sole or limited sources for less critical components, such as peripherals, power supplies, cooling and chassis hardware. We currently obtain key processors from Intel and NVIDIA for our Cray XC and cluster systems. We have a license for the Aries interconnect chip from Intel which we purchase through Broadcom Corporation (formerly Avago) that contracts with Taiwan Semiconductor Manufacturing Company for the manufacture of the integrated circuit. Our procurements from these vendors are primarily through purchase orders. We have chosen to deal with sole sources in specific cases due to the availability of specific

technologies, economic advantages and other factors. Reliance on single or limited source vendors involves several risks, including the possibility of shortages of key components, long lead times, reduced control over delivery schedules, design or persistent quality issues and changes in direction by vendors. We have been adversely affected by delays in obtaining qualified competitive components previously.

## **Our Markets**

Our key target markets are (i) the supercomputing portion of the HPC market and (ii) the big data market, encompassing analytics, storage and artificial intelligence markets. High performance, real-time analytics on large volumes of data is developing into an important success driver for business, government and academia, and successfully leveraging this market is important to us. Big data is a relatively new target market for us, but several of our core strengths and technologies, such as the abilities to process vast amounts of unique data at very high speeds and to make “discoveries,” are demonstrated capabilities of our supercomputing solutions. Bringing these technologies to the big data market is core to Cray addressing big data challenges, enabling us to bring highly differentiated analytics offerings to market. The market segments we are targeting with our supercomputing, analytics and storage products for HPC and big data are as follows:

*Scientific Research.* Scientific research includes government research laboratories and research universities around the world. In the U.S., the Department of Defense, through its High Performance Computing Modernization Program, funds a number of research organizations that are our target customers. The Office of Science in the Department of Energy and its laboratories are key customers, as are the National Science Foundation and the National Aeronautics and Space Administration and similar agencies around the world. These research centers also provide supercomputing and big data resources to their affiliated organizations (such as the Department of Defense contractors) and industrial partners.

*National Security.* Classified work in various worldwide government agencies has represented an important market for us over many years. Certain U.S. government departments have on occasion provided funding support for our research and development efforts to meet their objectives. Current and potential customers include a number of Department of Defense-related classified organizations, the National Nuclear Security Administration of the Department of Energy and analogous foreign counterparts who have interest in our full range of products.

*Defense.* The defense segment has wide-ranging needs for HPC systems that in some ways are unique and in other ways are similar to our other market segments. HPC systems can assist in the development of defense technologies, equipment and secure communications infrastructure, as well as in the identification and analysis of military intelligence. Intelligence supports real-time development of defense strategy and decision making, while technology advancements are necessary to maintain military advantages, including deterrents, and to protect the warfighter.

*Earth Sciences.* Weather forecasting and climate modeling applications require increasing speed and larger volumes of data. Forecasting models and climate applications have grown increasingly complex with an ever-increasing number of interactive variables, making improved supercomputing, analytics and storage capabilities increasingly critical. We have a number of customers running weather and climate applications, including customers in Germany, the United Kingdom, Korea, Brazil, Switzerland, Singapore, Denmark, Finland, India, Spain and the United States.

*Energy.* Supercomputing in the energy sector is driven largely by oil and gas exploration and processing, from seismic analysis to reservoir simulations. The simulation methods used often require high performance networks and storage subsystems. We currently have commercial customers utilizing both our systems and storage solutions in production and we are targeting this segment for future products.

*Financial Services.* Big data analytics and supercomputing systems are providing competitive advantage in areas as disparate as trading, compliance, marketing optimization and risk analysis. Financial services applications are very time sensitive, so high performance data analytics solutions are highly sought after. Our customers are using a range of our solutions and systems to derive a competitive advantage in this segment.

*Life Sciences.* The life sciences industry has demanding data and simulation requirements that test the limits of HPC and big data systems. In the life sciences, HPC methods cover a vast area ranging across modeling systems from the molecular level to the whole cell, next-generation genomic sequencing and healthcare optimization. Big data analytics are key to making sense and creating insight in the enormous volumes of data being generated. Our big data solutions can help discover new relationships that can allow existing drugs to help address new medical issues. Our customers are utilizing our products and solutions across these ranges of use cases today.

*Manufacturing.* Supercomputers are used to design lighter, safer and more durable vehicles, study wind noise and airflow around vehicles, improve airplane flight characteristics and, in many other computer-aided engineering applications, to improve

time-to-market and product quality. We currently have aerospace, automotive and manufacturing customers around the globe that are actively using our HPC and big data solutions.

*Emerging Markets.* The rise of big data analytics, artificial intelligence and cyber analytics across industries has resulted in growing interest in Cray supercomputers. Artificial intelligence is rapidly becoming the next major driver in the HPC market. Deep learning and machine learning, both subsets of artificial intelligence, are specific use cases within the broader advanced analytics space. Scientific computing is a natural area for both identifying and driving a broader set of deep learning-enabled applications. Further, deep learning core computational motifs are rooted in linear algebra and mathematical optimization, which map well to long-standing focus areas for systems research within the HPC community. Finally, several use cases in scientific data analysis typically require large-scale pattern recognition on multi-dimensional image and time series datasets, and machine learning and deep learning are emerging as valuable tools to handle these use cases. Deep learning applications run at scale on the Cray XC series and Cray CS series supercomputers.

Sales to the U.S. government and system acquisitions primarily funded by the U.S. government, or U.S. Government, accounted for approximately 47% of our total revenue in 2016, 47% of our total revenue in 2015 and 48% of our total revenue in 2014. Significant customers with over 10% of our annual total revenue were the U.S. Government and a foreign weather center in 2016 and the U.S. Government in 2015 and 2014. International customers accounted for 46% of our total revenue in 2016, 36% of our total revenue in 2015 and 42% of our total revenue in 2014.

We have four operating segments that are reportable for financial reporting purposes. Segment information and related disclosures are set forth in *Note 17 — Segment Information* in the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K.

## **Competition**

The broad HPC market is very competitive. We compete with systems builders and resellers of systems that are constructed from commodity components using processors manufactured by Intel, NVIDIA, AMD and others. IBM, NEC and Fujitsu also build systems leveraging their own processors. In addition, certain Chinese companies are investing significantly in HPC and are becoming more aggressive and competitive in the HPC global arena. Our competitors include the previously named companies as well as smaller companies that assemble systems from commercially available commodity products. The Cray CS400 and CS-Storm supercomputing cluster products are designed to help us better address this market by providing flexible HPC offering alternatives with competitive pricing. To the extent that IBM and other processor suppliers develop processors or networks with greater capabilities or at lower cost than the processors we use from Intel and NVIDIA, our systems may be at a competitive disadvantage to systems utilizing such other processors.

For our products designed for the high-end supercomputer market segment, we compete primarily on the basis of product performance, scalability, breadth of features, price/performance, total cost of ownership, quality, reliability, upgradability, service and support, corporate reputation, brand image and account relationships. Our market approach here is more focused than many of our competitors, with high-end supercomputing products (the Cray XC series) designed with high levels of integration to meet the exacting needs of this performance and scalability driven market. We work to offer systems that provide greater performance on the largest, most difficult computational problems and superior price/performance on many important applications in the upper-end of the supercomputer market segment. Our highly-integrated systems often offer superior total cost of ownership advantages as they typically use less electric power, require less cooling and occupy less space than lower bandwidth cluster systems.

The market for our Cray CS400 product line is very competitive. The majority of competition is from Lenovo, HPE, Dell, Atos and Fujitsu, all of which offer open-standards cluster solutions to address the growth in the mid-range supercomputing market. We compete primarily on the basis of price/performance, open-standards architecture, flexible configurations, energy-efficiency, reliability, scalability, comprehensive cluster management, corporate reputation and account relationships. Our market approach is to offer cluster solutions that provide greater performance on the large and complex computational problems and superior price/performance on many important applications in this market segment.

The competitive landscape in the big data market is quite varied, with competition from vendors offering integrated solutions, such as Oracle, commodity cluster systems with either open source or proprietary data analytics software, and traditional business intelligence vendors such as Teradata, Oracle, IBM and SAP. The market for knowledge discovery through graph analytics is still nascent and fragmented as no dominant applications have yet emerged, with the result that custom and open source software approaches such as Hadoop/MapReduce are often used. However, customers with large, mission-critical graph problems have discovered that commodity approaches do not scale or deliver results in an acceptable timeframe, and have recognized the advantages of specialized solutions. We recently introduced the Cray Urika-GX offering, which competes primarily on the basis of

performance, scalability and integration, as well as total cost of ownership in the traditional Hadoop and Spark analytics marketplace as well as for graph analytics. The artificial intelligence market is nascent outside of the large web companies but competition may include systems and subsystems developed by processor vendors and several start-up companies in addition to our traditional system competitors.

Our storage products compete with a number of manufacturers and integrators of parallel storage solutions, including IBM with its GPFS parallel file system, as well as solutions from Data Direct Networks, or DDN, NetApp, Dell/EMC and other storage companies. The parallel storage and file system market is currently fragmented with a number of competing providers in the HPC marketplace. We believe that our strong storage products, along with our extensive experience and excellent reputation as an HPC systems vendor, and our storage offerings compete effectively against our competition, especially when the prospective target market overlaps with our HPC systems target market.

### **Intellectual Property**

We attempt to protect our trade secrets and other proprietary rights through formal agreements with our employees, customers, suppliers and consultants, and through patent protection. Although we intend to protect our rights vigorously, there can be no assurance that our contractual and other security arrangements will be successful.

Our general policy is to seek patent protection for those inventions and improvements that give us a competitive advantage and are likely to be incorporated into our products and services. We have a number of patents and pending patent applications relating to our hardware and software technologies. While we believe our patents and applications have value, no single patent or group of patents is in itself essential to us as a whole or to any of our key products. Any of our proprietary rights could be challenged, invalidated or circumvented and may not provide significant competitive advantage.

We have licensed certain patents and other intellectual property from others in our industry. These licenses often contain restrictions on our use of the underlying technology. We have also entered into cross-license arrangements with other companies involved in the HPC industry.

### **Backlog**

We do not believe backlog is a meaningful indicator of our future business prospects due to the uncertainty of converting orders into recognized revenue in any given period. Judgments about contracts not yet signed and open opportunities are often more important. Factors impacting the amount of backlog and our ability to recognize revenue from backlog in any given period include the possibility of significant contract amendments, the timing of our product development, manufacturing and delivery schedules and changes in delivery schedules requested by our customers. Therefore, we believe that backlog information is not material to an understanding of our overall business.

### **Employees**

As of December 31, 2016, we had 1,312 employees. We have no collective bargaining agreement with our employees. We have not experienced a work stoppage and believe that our employee relations are very good.

### **Available Information**

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, are available free of charge at our website at [www.cray.com](http://www.cray.com), as soon as reasonably practicable after we file such reports with the SEC electronically. The public may read and copy any materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov). In addition, we have set forth our Code of Business Conduct, Corporate Governance Guidelines, the charters of the Audit, Compensation, Corporate Governance and Strategic Technology Assessment Committees of our Board of Directors and other governance documents on our website, [www.cray.com](http://www.cray.com), under "Company - Investors - Corporate Governance." The contents of our website are not incorporated by reference into this annual report on Form 10-K or our other SEC reports and filings.

## Item 1A. Risk Factors

In addition to the other information contained in this annual report on Form 10-K, you should carefully read and consider the following risk factors. If any of these risks actually occur, our business, financial condition or operating results could be materially adversely affected and the trading price of our common stock could decline.

**Our operating results fluctuate significantly and we may not achieve profitability in any given period.** Our operating results are subject to significant fluctuations which make predicting revenue and operating results for any specific period very difficult, particularly because a material portion of product revenue recognized in any given quarter or year typically depends on a limited number of system sales expected for that quarter or year and the product revenue generally depends on the timing of product acceptances by customers and contractual provisions affecting revenue recognition. Receiving less than anticipated customer orders for delivery and acceptance of product for a particular period, delays in achieving customer acceptances of installed systems and recognizing revenue from a product transaction or transactions due to development or product delivery delays, unexpected manufacturing delays or defects, not receiving needed components on time or not receiving them with anticipated quality and performance or the inability of a system to meet performance requirements or targets or other contractual obligations, among other factors, could have a material adverse effect on our operating results in any specific quarter or year, such as by reducing or delaying associated revenue, gross profit and cash receipts from one quarter to another, or even from one year to another in the case of revenue expected to be realized in the fourth quarter of any year, as occurred in the fourth quarter of 2014. In addition, because our revenue can be concentrated in particular quarters, often the fourth quarter, rather than evenly spread throughout a year, we generally do not expect to sustain profitability over successive quarters even if we are profitable for the year.

Although we have recorded positive annual net income since 2010, we experienced net losses in earlier periods and could experience a net loss in any future year in addition to quarterly losses. Net income may fluctuate significantly as a result of many factors, including as a result of significant investments we may make to grow our business even though the benefits of those investments often require many years to come to fruition and may not be realized when expected or at all. For example, we anticipate incurring significant expenditures in connection with the expansion of our facilities and continued investments in research and development. Due to the inherent difficulty in estimating costs associated with projects of this scale and nature, certain of the costs associated with these potential projects may be higher than estimated and it may take longer than expected to complete, if at all. In addition, while we were profitable in 2016, our revenue and profitability declined year over year, driven in part by a slow-down in the high-end of the supercomputing market. It is uncertain whether or when the high-end of the supercomputing market will rebound and resume growing.

Whether we will be able to increase our revenue and achieve and sustain profitability on a quarterly and annual basis depends on a number of factors, including:

- our ability to secure sufficient orders for our Cray XC and Cray CS systems as well as upgrades and successor systems, such as our next generation “Shasta” system;
- successfully delivering and obtaining sufficient customer acceptances of our Cray XC and Cray CS systems, including attached Sonexion storage systems;
- our ability to successfully generate revenue and profitability from sales of our analytics and storage and data management products, as well as upgrades and successor systems;
- our ability to successfully and timely design for, procure and integrate competitive processors for our Cray XC and Cray CS systems and upgrades and successor systems;
- our expense levels, including research and development expense net of government funding;
- delays in delivery of upgraded or new systems, longer than expected customer acceptance cycles or penalties resulting from system acceptance issues;
- our ability to efficiently scale our internal processes to meet necessary peak requirements and growth in our business;
- the level of revenue recognized in any given period, which is affected by the very high average sales prices and limited number of significant system sales and resulting potential acceptances in any quarter, the timing of product orders and acceptances by customers and contractual provisions affecting the timing and amount of revenue recognition;
- our ability to continue to broaden our customer base beyond our traditional customers;



- revenue delays or losses due to customers postponing purchases as a result of delays in available budgets or waiting times related to the availability of future upgraded or new systems, including those containing new processors;
- the level of product gross profit contribution in any given period due to volume, competition or product mix, particularly with the introduction of flexible commodity-based supercomputers, competitive factors, strategic transactions, product life cycle, currency fluctuations, acceptance penalties and component costs;
- the competitiveness of our products, services and prices;
- our ability to secure additional government funding for future development projects;
- maintaining and successfully completing our product development projects on schedule and within budgetary limitations;
- our ability to resolve and the costs incurred in connection with any actual or alleged issues with our products, including third-party components of such products, such as those that relate to product defects or intellectual property rights;
- the level and timing of maintenance contract renewals with existing customers; and
- the terms and conditions of sale or lease for our products and services.

The receipt of orders and the timing of shipments and acceptances impacts our quarterly and annual results, including cash flows, and is affected by events outside our control, such as:

- whether or when the high-end of the supercomputing market, which is currently experiencing a slow-down, rebounds and resumes growing;
- the timely availability of acceptable components, including, but not limited to, processors, in sufficient quantities to meet customer delivery schedules and other customer commitments at a competitive cost;
- the timing and level of government funding and resources available for product acquisitions and research and development contracts, which have been, and may continue to be, adversely affected by the current global economic and fiscal uncertainties, increased governmental budgetary limitations and disruptions in the operations of the United States and other governments;
- competitor and supplier pricing strategies;
- currency fluctuations, international conflicts or economic crises, including the ongoing economic challenges in the United States, Japan and Europe, and fluctuations in oil prices that can affect the resources available to potential customers to purchase products;
- new tariffs or taxes imposed on components and products sourced or manufactured outside of the United States;
- the introduction or announcement of competitive or key industry supplier products;
- price fluctuations or product shortages in the processors and other commodity electronics and memory markets;
- the availability of adequate customer facilities to install and operate new Cray systems;
- general economic trends, including changes in levels of customer capital spending; and
- our customers' ability to make future payments in accordance with contractual terms of their purchase or sales-type lease agreements.

Because of the numerous factors affecting our revenue and results of operations, we may not achieve profitability on a quarterly or annual basis in the future. We anticipate that our quarterly results will fluctuate significantly, and include losses, even in years where we expect or achieve positive annual net income. Delays in the availability of acceptable third-party components, product development, receipt of orders, product acceptances, issues with third-party component performance or reliability, reductions in outside funding for our research and development efforts, a reduction in the size of the high-end of the supercomputing market, the level and timing of approved government fiscal budgets and achieving contractual development milestones have had a substantial adverse effect on our past results and are expected to continue to have such an effect on our results in 2017 and in future years.

**If we are unable to successfully develop, sell and deliver our Cray XC systems and successor systems, such as our next generation Shasta system, and recognize revenue for these systems, our operating results will be adversely affected.** We expect that a substantial portion of our revenue in the foreseeable future will come from acceptances of delivered Cray XC systems and successor systems, such as our next generation Shasta system, including systems integrating future processors and accelerators where we are dependent upon third-party suppliers to deliver according to expected plans. The development efforts related to these systems are lengthy and technically challenging processes, and require a significant investment of capital, engineering and other resources often years ahead of the time when we can be assured that they will result in competitive products. We may invest significant resources that may prove ultimately unsuccessful. Unanticipated performance and/or development issues may require more engineers, time or testing resources than are currently available. Given the breadth of our engineering challenges, changes in the market and technology and our limited engineering and technical personnel resources, we periodically review the anticipated contributions and expense of our product programs to determine their long-term viability, and we may substantially modify or terminate one or more development programs. We may not be successful in meeting our development schedules for technical reasons, including those related to our dependence on third-party suppliers of components such as processors and accelerators, and/or because of insufficient engineering resources, which could result in an uncompetitive product or cause a lack of confidence in our capabilities among our key customers. To the extent that we incur delays in completing the design, development and production of hardware components, delays in development of requisite system software, cancellation of or changes to programs due to technical or economic infeasibility, inability to source acceptable third-party components such as processors and accelerators or investment in unproductive development efforts, our revenue, results of operations and cash flows, and the reputation of such systems in the market, could be adversely affected.

In addition, many factors affect our ability to successfully sell and recognize revenue for these systems, including the following:

- the level of product differentiation in our Cray XC systems and successor systems, such as our next generation Shasta system. We need to compete successfully against HPC systems from both large, established companies and smaller companies and demonstrate the value of our balanced, tightly integrated systems to our customers in a variety of markets;
- our ability to meet all customer requirements for acceptance. Even once a system has been delivered, we sometimes do not meet all of the contract requirements for customer acceptance and ongoing reliability of our systems within the provided-for acceptance period, which has resulted in contract penalties and delays in our ability to recognize revenue from system deliveries. Most often these penalties have adversely affected revenue and gross profit at the time of revenue recognition through the provision of additional equipment and services and/or service credits to satisfy delivery delays and performance shortfalls. The risk of contract penalties is increased when we bid for new business prior to us or our suppliers completing development of new products and when we must estimate future system performance, such as has been required with our Cray XC systems and our Sonexion storage systems, and will be frequently required for subsequent systems, such as our next generation Shasta system;
- our ability to source competitive, key components in appropriate quantities (to have enough to sell without ending up with excess inventory that can lead to obsolescence charges), in a timely fashion and on acceptable terms and conditions and that meet the performance criteria required; and
- whether potential customers delay purchases of our products because they decide to wait for successor systems or upgrades that we or our suppliers have announced or they believe will be available in the future.

Failure to successfully develop and sell our Cray XC systems and successor systems, such as our next generation Shasta system, into the supercomputing market and recognize revenue for such systems will adversely affect our operating results.

**If our current and future products targeting markets outside of our traditional markets, primarily products targeting the big data and commercial markets, are not successful, our ability to grow or even maintain our revenues and achieve and sustain profitability will be adversely affected.** Our ability to materially grow or even maintain our revenues and achieve and sustain profitability will be adversely affected if we are unable to generate sufficient revenue from products targeting markets outside of our traditional markets, including if those market segments do not grow significantly. We are currently focusing on big data analytics, artificial intelligence and storage and data management opportunities as well as the commercial market for all of our products. To grow our revenue from opportunities outside our primary markets, we must successfully and in a cost-effective manner design and develop products utilizing technologies different from our traditional supercomputing products, compete successfully with many established companies and new entrants in these markets, continue to win awards for new contracts, timely perform on existing contracts, develop our capability for broader market sales and business development and successfully develop and introduce new solution-oriented offerings, notwithstanding that these are relatively new businesses for us and we do not have significant

experience targeting these markets. Big data analytics, artificial intelligence and storage and data management opportunities require significant monetary investments ahead of revenue, including product development efforts, adding experienced personnel and initiating new marketing and sales efforts and therefore may reduce net income in the short term even if successful.

**Our reliance on third-party suppliers poses significant risks to our operating results, business and prospects.** We rely upon third-party vendors, particularly Intel, to supply processors, including accelerators, and for most of the products, we sell and use service providers to co-develop key technologies. We subcontract the manufacturing of a majority of the hardware components for our high-end products, including integrated circuits, printed circuit boards, memory parts, cables and power supplies, on a sole or limited source basis to third-party suppliers. We use contract manufacturers to assemble certain important components for all of our systems. We also rely on third parties to supply key software and hardware capabilities, such as file systems, solution-specific servers and storage subsystems, and in the case of our Sonexion products, we rely on third-party original equipment manufacturers to supply complete storage systems. Because specific components must be designed into our systems well in advance of initial deliveries of those systems, we are particularly reliant on our processor vendors, particularly Intel, to deliver on the capabilities and pricing expected at the time we design key elements of the system and make binding bids to customers. We are subject to substantial risks because of our reliance on these and other limited or sole source suppliers, including the following risks:

- if a supplier does not provide components or systems that meet our or their specifications in sufficient quantities and with acceptable performance or quality on time or deliver when required, or delays future components or systems beyond anticipated delivery dates, then sales, production, delivery, acceptance and revenue from our systems could be delayed and/or reduced and we could be subject to costly penalties even once delivered and accepted, which has happened multiple times in the past and has at times significantly lowered our revenue for a particular quarter or year;
- if our relationship with a key supplier, such as Intel, is adversely affected, for example, due to competitive pressures (or conflicting interests), our ability to obtain components on competitive financial terms could be adversely affected;
- if a supplier cannot provide a competitive key component, for example, due to inadequate performance or a prohibitive price, or eliminates key features from components, such as with the processors we design into our systems, our systems may be less competitive than systems using components with greater capabilities;
- if an interruption of supply of our components, services or capabilities occurs because a supplier changes its technology roadmap, suffers damage to its manufacturing facilities, decides to no longer provide those products or services, increases the price of those products or services significantly or imposes reduced delivery allocations on its customers, it could take us a considerable period of time to identify and qualify alternative suppliers, to redesign our products as necessary and to begin to manufacture the redesigned components or otherwise obtain those services or capabilities. In some cases, such as with key integrated circuits and memory parts or processors, we may not be able to redesign such components or find alternate sources that we could use in any realistic timeframe;
- if a supplier plans future processors that are made available in a way that encourages customers to delay purchases of our products because they decide to wait for successor systems or upgrades they believe will be available in the future or to purchase products with the future processors from our competitors who are willing to take greater risk on delivery;
- if Cray systems at customer sites develop significant issues with third-party components, as has occurred, the cost to Cray to repair or replace the components or otherwise address such issue may be material. If we are unable to effectively address such problem or a problem causes customer disruption, our relationship with our customers may also be harmed;
- if a supplier of a component is subject to a claim that the component infringes a third-party's intellectual property rights, as has happened with multiple suppliers, our ability to obtain necessary components could be adversely affected or our cost to obtain such components could increase significantly;
- if a supplier providing us with key research and development and design services or core technology components with respect to integrated circuit design, network communication capabilities or software is late, fails to provide us with effective functionality or loses key internal talent, our development programs may be delayed or prove to be impossible to complete;
- if a supplier provides us with hardware or software that contains bugs or other errors or defects, or is different from what we expected, our development projects and production systems may be adversely affected through reduced performance or capabilities, additional design testing and verification efforts, re-spins of integrated circuits and/or

development of replacement components, and the production and sales of our systems could be delayed and systems installed at customer sites could require significant, expensive field component replacements or result in penalties;

- some of our key component and service suppliers are small companies with limited financial and other resources, and consequently may be more likely to experience financial and operational difficulties than larger, well-established companies, which increases the risk that they will be unable to deliver products as needed; and
- if a key supplier is acquired or has a significant business change, as has occurred in the past with the acquisition of the third-party original equipment manufacturer that supplies complete storage systems for our Sonexion product, the production and sales of our systems and services may be delayed or adversely affected, or our development programs may be delayed or may be impossible to complete.

Delays in the availability of components with acceptable performance, features and reliability, or our inability to obtain such acceptable components in the quantities we need or at all, and increases in prices and order lead times for certain components, have occurred in the past, and we are currently experiencing increased delivery timelines of memory and other key components. These types of issues have adversely affected our revenue and operating results in multiple prior periods, in some cases significantly, and could adversely affect future results.

**The continuing commoditization of HPC hardware and software has resulted in increased pricing pressure and may adversely affect our operating results.** The continuing commoditization of HPC hardware, such as processors, interconnects, storage and other infrastructure, and the growing commoditization of software, including plentiful building blocks and more capable open source software, as well as the potential for integration of differentiated technology into already-commoditized components, has resulted in, and may result in increased pricing pressure that may cause us to reduce our pricing in order to remain competitive, which can negatively impact our gross margins and adversely affect our operating results.

**If the U.S. government and other governments purchase, or fund the purchase of, fewer supercomputers or delay such purchases, our revenue would be reduced and our operating results would be adversely affected.** Historically, sales to the U.S. Government have represented the largest single market segment for supercomputer sales worldwide, including our products and services. In 2014, 2015 and 2016, approximately 48%, 47% and 47%, respectively, of our total revenue was derived from such sales. Our plans for the foreseeable future contemplate significant sales to the U.S. Government. Sales to the U.S. Government and other governments, including further sales pursuant to existing contracts, have been, and may continue to be, adversely affected by factors outside our control, such as by:

- uncertainties relating to priorities of the new administration or adverse decisions by the new administration to reduce or eliminate budgets for governmental agencies or departments that purchase or fund the purchase of our products and services;
- Congressional decisions in addressing budget concerns and current economic uncertainty;
- disruptions in the operations of the U.S. government, including impacts of the new administration;
- “sequestration”;
- the downgrading of U.S. government debt or the possibility of such action;
- the political climate in the U.S. focusing on cutting or limiting budgets and its affect on government budgets;
- the limits on federal borrowing capacity;
- changes in procurement policies;
- budgetary considerations, including Congressional delays in completing appropriation bills as has occurred in the past and which is the case right now as Congress is operating under a Continuing Resolution at fiscal year 2016 levels until April 28, 2017;
- domestic crises;
- political efforts to limit the activities of U.S. intelligence community agencies, including proposed state legislation that would limit or even criminalize doing business with the NSA for certain companies doing business with state governments; and
- international political developments, such as the downgrading of European debt or the U.K. “Brexit” vote.

If agencies and departments of the United States or other governments were to stop, reduce or delay their use and purchases of supercomputers, our revenue and operating results would be adversely affected.

**If our cluster systems are not successful, our operating results will be adversely affected.** Our cluster products were first introduced in late 2012. We have had relatively limited experience selling cluster-based solutions, including into the same markets we sell our core supercomputers, and if we cannot successfully sell these solutions with acceptable margins, our operating results will be adversely affected.

**We may infringe or be subject to claims that we infringe the intellectual property rights of others.** We are and may in the future be subject to patent infringement and other intellectual property claims and lawsuits in various jurisdictions, and we cannot be certain that our products or activities do not violate the patents, trademarks, or other intellectual property rights of third-party claimants. Companies in the technology industry and other patent, copyright, and trademark holders seeking to profit from royalties in connection with grants of licenses own large numbers of patents, copyrights, trademarks, domain names, and trade secrets and frequently commence litigation based on allegations of infringement, misappropriation, or other violations of intellectual property or other rights. As we face increasing competition and gain an increasingly high profile, the intellectual property rights claims against us have grown and will likely continue to grow. For example, we are currently involved in litigation with Raytheon Company, or Raytheon, which is described in *Note 12 - Commitments and Contingencies* in the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K.

We intend to vigorously defend and prosecute these litigation matters and, based on our reviews to date, we believe we have valid defenses with respect to each of these matters. However, litigation is inherently uncertain, and any judgment or injunctive relief entered against us or any adverse settlement could materially and adversely impact our business, financial condition, operating results, and prospects. As a result of these or other intellectual property infringement claims, we could be required or otherwise decide that it is appropriate to:

- pay third-party infringement claims;
- discontinue manufacturing, using or selling particular products subject to infringement claims;
- discontinue using the technology or processes subject to infringement claims;
- develop other technology not subject to infringement claims, which could be time-consuming and costly or may not be possible; and/or
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all.

In addition, litigation can involve significant management time and attention and can be expensive, as it has been with Raytheon, regardless of outcome. During the course of these litigation matters, there may be announcements of the results of hearings and motions, and other interim developments related to the litigation matters. If securities analysts or investors regard these announcements as negative, the market price of our common stock may decline.

**If we cannot retain, attract and motivate key personnel, we may be unable to effectively implement our business plan.** Our success depends in large part upon our ability to retain, attract and motivate highly skilled management, development, marketing, sales and service personnel. The loss of and failure to replace key technical management and personnel could adversely affect multiple development efforts. Recruitment and retention of senior management and skilled technical, sales and other personnel is very competitive, and we may not be successful in either attracting or retaining such personnel. We have lost key personnel to other high technology companies, and many larger companies with significantly greater resources than us have aggressively recruited, and continue to aggressively recruit, key personnel. As part of our strategy to attract and retain key personnel, we may offer equity compensation through grants of stock options, restricted stock awards or restricted stock units. Potential employees, however, may not perceive our equity incentives as attractive enough. In addition, due to the intense competition for qualified employees, we may be required to, and have had to, increase the level of compensation paid to existing and new employees, which could materially increase our operating expenses.

**We have made in the past, and may make in the future, acquisitions which could require significant management attention, disrupt our business, result in dilution to our shareholders, deplete our cash reserves and adversely affect our financial results.** Acquisitions involve numerous risks, including the following:

- difficulties in successfully integrating the operations, systems, technologies, products, offerings and personnel of the acquired company or companies;
- insufficient revenue to offset increased expenses associated with acquisitions;

- diversion of management's attention from normal daily operations of the business and the challenges of managing larger and more widespread operations resulting from acquisitions;
- potential difficulties in completing projects associated with in-process research and development intangibles;
- difficulties in entering markets in which we have no or limited direct prior experience and where competitors in such markets have stronger market positions;
- initial dependence on unfamiliar supply chains or relatively small supply partners; and
- the potential loss of key employees, customers, distributors, vendors and other business partners of the companies we acquire following and continuing after announcement of acquisition plans.

Acquisitions may also cause us to:

- use a substantial portion of our cash reserves or incur debt;
- issue equity securities or grant equity incentives to acquired employees that would dilute our current shareholders' percentage ownership;
- assume liabilities, including potentially unknown liabilities;
- record goodwill and non-amortizable intangible assets that are subject to impairment testing on a regular basis and potential periodic impairment charges;
- incur amortization expenses related to certain intangible assets;
- incur large and immediate write-offs and restructuring and other related expenses; or
- become subject to intellectual property litigation or other litigation.

Acquisitions of high-technology companies and assets are inherently risky and subject to many factors outside of our control, and no assurance can be given that our recently completed or future acquisitions will be successful and will not materially adversely affect our business, operating results, or financial condition. Failure to manage and successfully integrate acquisitions could materially harm our business and operating results.

**If we are unable to compete successfully in the highly competitive HPC market, our business will not be successful.** The market for HPC systems is very competitive. An increase in competitive pressures in our market or our failure to compete effectively may result in pricing reductions, reduced gross margins and loss of market share and revenue. Many of our competitors are established well known companies in the HPC market, including IBM, HPE, Lenovo, Dell, NEC, Hitachi, Fujitsu and Atos. Most of these competitors have substantially greater research, engineering, manufacturing, marketing and financial resources than we do. In addition, certain Chinese companies are investing significantly in HPC and are becoming more aggressive and more competitive in the HPC global arena.

We also compete with systems builders and resellers of systems that are constructed from commodity components using processors manufactured and/or designed by Intel, ARM, AMD, NVIDIA and others. These competitors include the companies named above, as well as smaller companies that benefit from the low research and development costs needed to assemble systems from commercially available commodity products. Such companies, because they can offer high peak performance per dollar, can put pricing pressure on us in certain competitive procurements. In addition, to the extent that Intel, IBM and other processor suppliers develop processors with greater capabilities or at a lower cost than the processors we currently use, our Cray XC systems may be at a competitive disadvantage to systems utilizing such other processors until we can design in, integrate and secure competitive processors, if at all. Also, to the extent any component supplier successfully adds differentiating capabilities to their HPC products that compete with what we provide, we may experience greater competitive pressures.

Our growth initiatives in the big data analytics, artificial intelligence and storage and data management markets must also compete successfully with many established companies and new entrants, many of whom have significantly greater resources and brand recognition in these markets than we do.

Periodic announcements by our competitors of new HPC, storage or data analytics systems or plans for future systems and price adjustments may reduce customer demand for our products. Many of our potential customers already own or lease high performance computer, storage or data analytics systems. Some of our competitors have offered substantial discounts to potential customers. We have in the past been and may again be required to provide substantial discounts to make strategic sales, which may reduce or eliminate any gross profit on such transactions, or require us to provide lease financing for our products, which could

result in a multi-year deferral of our receipt of cash and revenue for these systems. These developments limit our revenue and financial resources and reduce our ability to be profitable and grow.

**We maintain confidential and proprietary information on our computer networks and employ security measures designed to protect this information from unauthorized access. If our security measures are breached, we could lose proprietary data and may suffer economic losses.** We maintain confidential information on our computer networks, including information and data that are proprietary to our customers and third parties, as well as to us. Although we have designed and employed and continue to enhance a multitude of security measures to protect this information from unauthorized access, security breaches may occur, and in the past have occurred, as a result of third-party action, including computer hackers, employee error, malfeasance or otherwise. Security breaches can result in someone obtaining unauthorized access to our data or our customers' data, including our intellectual property and other confidential business information. Because the techniques employed by hackers to obtain unauthorized access or to sabotage systems change frequently, we may be unable to anticipate these techniques or to implement adequate preventative measures. A security breach could result in disclosure of our trade secrets or disclosure of confidential customer, supplier or employee data. If this should happen, we could be exposed to potentially significant legal liability, remediation expense, harm to our reputation and other harm to our business.

**We may not be able to protect our proprietary information and rights adequately.** We rely on a combination of patent, copyright, trademark and trade secret protection, nondisclosure agreements and licensing arrangements to establish, protect and enforce our proprietary information and rights. We have a number of patents and have additional applications pending. There can be no assurance, however, that patents will be issued from the pending applications or that any issued patents will adequately protect those aspects of our technology to which such patents will relate. Despite our efforts to safeguard and maintain our proprietary rights, we cannot be certain that we will succeed in doing so or that our competitors will not independently develop or patent technologies that are substantially equivalent or superior to our technologies. The laws of some countries do not protect intellectual property rights to the same extent or in the same manner as do the laws of the United States. Additionally, under certain conditions, the U.S. government might obtain non-exclusive rights to certain of our intellectual property. Although we continue to implement protective measures and intend to defend our proprietary rights vigorously, these efforts may not be successful.

**We are subject to market and financial risks due to our international operations that could adversely affect those operations or our profitability and operating results.** Our international operations include sales and service offices in Europe, the Middle East, South America, Asia, Australia and Canada. Our operations in countries outside of the United States, which accounted for approximately 46% of our total revenue for 2016, expose us to greater risks associated with international sales and operations. Our profitability and international operations are, and will continue to be, subject to a number of risks and potential costs, including:

- supporting multiple languages;
- recruiting sales and technical support personnel internationally with the skills to sell and support our products;
- complying with governmental regulations, including obtaining required import or export approval for our products;
- increased complexity and costs of managing international operations;
- increased exposure to foreign currency exchange rate fluctuations;
- trade protection measures and business practices that favor local competition;
- longer sales cycles and manufacturing lead times;
- financial risks such as longer payment cycles and difficulties in collecting accounts receivable;
- difficulties associated with repatriating cash generated or held abroad in a tax-efficient manner;
- ineffective legal protection of intellectual property rights;
- more complicated logistics and distribution arrangements;
- additional taxes and penalties;
- inadequate local infrastructure that could result in business disruptions;
- global political and economic instability; and
- other factors beyond our control such as natural disasters, terrorism, civil unrest, war and infectious disease.

Our global operations are also subject to numerous U.S. and foreign laws and regulations, including those related to anti-corruption, tax, corporate governance, imports and exports, financial and other disclosures, privacy and labor relations. These laws and regulations are complex and may have differing, conflicting and evolving legal standards, making compliance difficult and costly. If we or our employees, contractors or agents violate these laws and regulations, we could be subject to fines, penalties or criminal sanctions and may be prohibited from conducting business in one or more countries. Any violations, individually or in the aggregate, could have a material adverse effect on our operations and financial condition.

In addition, on June 23, 2016, the United Kingdom held a referendum in which voters approved an exit from the European Union, commonly referred to as “Brexit.” As a result of the referendum, it is expected that the British government will begin negotiating the terms of the United Kingdom’s future relationship with the European Union. The negotiated measures could potentially disrupt some of our target markets and jurisdictions in which we operate, including the United Kingdom and Germany, such as by adversely affecting tax benefits or liabilities in these or other jurisdictions or by restricting the movement of employees between the United Kingdom and other countries. Any such changes may adversely affect our operations and financial results.

**Customers and other third parties may make statements speculating about or announcing the purchase, acceptance or intention to complete purchases or acceptances of our products before such purchases or acceptances are substantially certain, and these proposed purchases or acceptances may not be completed when or as expected, if at all.** From time to time, customers and other third parties may make statements speculating about or announcing a potential purchase of our products before we have obtained an order for such purchases or completed negotiations and signed a contract for the purchase of such products. In some instances, government and government-funded customers may announce possible purchases even before they have obtained the necessary budget to procure the products. As a result, these statements, postings or announcements do not mean that we will ultimately be able to secure the sale when or as expected or at all as it is not certain that the contract or order negotiations will be completed successfully or as expected or that the customer will be able to obtain the budget they hope for or expect. In addition, from time to time, customers and other third parties may make statements speculating about or announcing the completion of an acceptance process of a delivery system before such acceptance is completed or certain. As a result, these statements or announcements do not mean that we will ultimately be able to obtain the acceptance when or as expected or recognize revenue.

**We are subject to increasing government regulations and other requirements due to the nature of our business, which may adversely affect our business operations.** In 2014, 2015 and 2016, approximately 48%, 47% and 47%, respectively, of our total revenue was derived from the U.S. Government. In addition to normal business risks, our contracts with the U.S. government are subject to unique risks, some of which are beyond our control. Our contracts with the U.S. government are subject to particular risks, including:

*The funding of U.S. government programs is subject to Congressional appropriations.* Many of the U.S. government programs in which we participate may extend for several years; however, these programs are normally funded annually. Changes in U.S. strategy and priorities may affect our future procurement opportunities and existing programs. Long-term government contracts and related orders are subject to cancellation, or delay, if appropriations for subsequent performance periods are not made. The termination of funding for existing or new U.S. government programs could result in a material adverse effect on our results of operations and financial condition.

*The U.S. government may modify, curtail or terminate its contracts with us.* The U.S. government may modify, curtail or terminate its contracts and subcontracts with us, without prior notice at its convenience upon payment for work done and commitments made at the time of termination. Modification, curtailment or termination of our major programs or contracts could have a material adverse effect on our results of operations and financial condition.

*Our U.S. government contract costs are subject to audits by U.S. government agencies.* U.S. government representatives may audit the costs we incur on our U.S. government contracts, including allocated indirect costs. Such audits could result in adjustments to our contract costs. Any costs found to be improperly allocated to a specific contract will not be reimbursed, and such costs already reimbursed must be refunded. If any audit uncovers improper or illegal activities or non-compliance with the terms of a specific contract, we may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government.

*Our business is subject to potential U.S. government inquiries and investigations.* We may be subject to U.S. government inquiries and investigations of our business practices due to our participation in government contracts. Any such inquiry or investigation could potentially result in a material adverse effect on our results of operations and financial condition.

*Our U.S. government business is also subject to specific procurement regulations and other requirements.* These requirements, although customary in U.S. government contracts, increase our performance and compliance costs. These costs might increase in the future, reducing our margins, which could have a negative effect on our financial condition. Failure to comply with these regulations



and requirements could lead to suspension or debarment, for cause, from U.S. government contracting or subcontracting for a period of time and could have a negative effect on our reputation and ability to secure future U.S. government contracts.

*U.S. export controls could hinder our ability to make sales to foreign customers and our future prospects.* The U.S. government regulates the export of HPC systems such as our products. We have experienced delays for up to several months in receiving appropriate approvals necessary for certain sales, which have delayed the shipment of our products. Delay or denial in the granting of any required licenses could make it more difficult to make sales to certain foreign customers, eliminating an important source of potential revenue. Restrictions on the export of information needed to manufacture our products has in the past impacted and could in the future impact our ability to have certain products and components made in certain lower cost jurisdictions

**Our stock price is volatile.** The trading price of our common stock is subject to significant fluctuations in response to many factors, including stock market trends and shareholder profile, our quarterly operating results, changes in analysts' estimates or our outlook, our capital raising activities, announcements of technological innovations and customer contracts by us or our competitors, a significant aggressive seller or buyer, litigation activities, general economic conditions and conditions in our industry. From January 1, 2016 through December 31, 2016, the closing sales price of our common stock on the NASDAQ Global Market ranged from \$18.40 to \$43.06 per share, and had a low closing price of \$16.35 per share during the period from January 1, 2017 through February 9, 2017. Because our stock price has been volatile, investing in our common stock is risky.

**We incorporate software licensed from third parties into the operating systems for our products as well as in our tools to design products and any significant interruption in the availability of these third-party software products or defects in these products could reduce the demand for our products or cause delay in development.** The operating system as well as other software we develop for our supercomputers contains components that are licensed to us under open source software licenses. Our business could be disrupted if this software, or functional equivalents of this software, were either no longer available to us or no longer offered to us on commercially reasonable terms. In either case we would be required to redesign our operating system software to function with alternative third-party software, or develop these components ourselves, which would result in increased costs and could result in delays in product shipments. Our supercomputer systems utilize software system variants that incorporate Linux technology. The open source licenses under which we have obtained certain components of our operating system software may not be enforceable. Any ruling by a court that these licenses are not enforceable, or that Linux-based operating systems, or significant portions of them, may not be copied, modified or distributed as provided in those licenses, would adversely affect our ability to sell our systems. In addition, as a result of concerns about the risks of litigation and open source software generally, we may be forced to protect our customers from potential claims of infringement. In any such event, our financial condition and results of operations may be adversely affected.

We also incorporate proprietary incidental software from third parties, such as for file systems, job scheduling and storage subsystems. We have experienced some functional issues in the past with implementing such software with our supercomputer systems. In addition, we may not be able to secure needed software systems on acceptable terms, which may make our systems less attractive to potential customers. These issues may result in lost revenue, additional expense by us and/or loss of customer confidence.

**The "conflict minerals" rule of the Securities and Exchange Commission, or SEC, has caused us to incur additional expenses, could limit the supply and increase the cost of certain metals used in manufacturing our products, and could make us less competitive in our target markets.** On August 22, 2012, the SEC adopted a rule requiring disclosure by public companies of the origin, source and chain of custody of specified minerals, known as conflict minerals, that are necessary to the functionality or production of products manufactured or contracted to be manufactured by us. The rule requires companies to obtain sourcing data from suppliers, engage in supply chain due diligence, and file annually with the SEC a specialized disclosure report on Form SD covering the prior calendar year. Implementation of our conflict minerals policy could limit our ability to source at competitive prices and to secure sufficient quantities of certain minerals used in the manufacture of our products, specifically tantalum, tin, gold and tungsten, as the number of suppliers that provide conflict-free minerals may be limited. In addition, we have incurred, and may continue to incur, material costs associated with complying with the conflict minerals rule, such as costs related to the determination of the origin, source and chain of custody of the minerals used in our products, the adoption of conflict minerals-related governance policies, processes and controls, and possible changes to products or sources of supply as a result of such activities. Within our supply chain, we may not be able to sufficiently verify the origins of the relevant minerals used in our products through the data collection and due diligence procedures that we implement, which may harm our reputation. Furthermore, we may encounter challenges in satisfying those customers that require that all of the components of our products be certified as conflict free, and if we cannot satisfy these customers, they may choose a competitor's products. We continue to investigate the presence of conflict materials within our supply chain.

**We are required to evaluate our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002 at the end of each fiscal year, and any adverse results from such future evaluations could result in a loss of investor confidence in our financial reports and have an adverse effect on our stock price.** Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we are required to furnish a report by our management and a report by our independent registered public accounting firm on our internal control over financial reporting in our annual reports on Form 10-K as to whether we have any material weaknesses in our internal controls over financial reporting. Depending on their nature and severity, any future material weaknesses could result in our having to restate financial statements, could make it difficult or impossible for us to obtain an audit of our annual financial statements or could result in a qualification of any such audit. In such events, we could experience a number of adverse consequences, including our inability to comply with applicable reporting and listing requirements, a loss of market confidence in our publicly available information, delisting from The NASDAQ Global Market, an inability to complete a financing, loss of other financing sources such as our line of credit, and litigation based on the events themselves or their consequences.

**Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the United States.** Generally accepted accounting principles in the United States are subject to interpretation by the Financial Accounting Standards Board, the SEC and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results, and could affect the reporting of transactions completed before the announcement of a change.

**Provisions of our Restated Articles of Incorporation and Amended and Restated Bylaws could make a proposed acquisition of our business that is not approved by our Board of Directors more difficult.** Provisions of our Restated Articles of Incorporation and Amended and Restated Bylaws could make it more difficult for a third-party to acquire us. These provisions could limit the price that investors might be willing to pay in the future for our common stock. For example, our Restated Articles of Incorporation and Amended and Restated Bylaws provide for:

- removal of a director only in limited circumstances and only upon the affirmative vote of not less than two-thirds of the shares entitled to vote to elect directors;
- the ability of our Board of Directors to issue up to 5,000,000 shares of preferred stock, without shareholder approval, with rights senior to those of the common stock;
- no cumulative voting of shares;
- the right of shareholders to call a special meeting of the shareholders only upon demand by the holders of not less than 30% of the shares entitled to vote at such a meeting;
- the affirmative vote of not less than two-thirds of the outstanding shares entitled to vote on an amendment, unless the amendment was approved by a majority of our continuing directors, who are defined as directors who have either served as a director since August 31, 1995, or were nominated to be a director by the continuing directors;
- special voting requirements for mergers and other business combinations, unless the proposed transaction was approved by a majority of continuing directors;
- special procedures to bring matters before our shareholders at our annual shareholders' meeting; and
- special procedures to nominate members for election to our Board of Directors.

These provisions could delay, defer or prevent a merger, consolidation, takeover or other business transaction between us and a third-party that is not approved by our Board of Directors.

**Item 1B. Unresolved Staff Comments**

None.

**Item 2. Properties**

Our principal properties are as follows:

Location of Property	Uses of Facility	Approximate Square Footage
Chippewa Falls, WI	Manufacturing, hardware development, central service and warehouse	213,600
Bloomington, MN <sup>(1)</sup>	Software development, sales and marketing	87,500
St. Paul, MN <sup>(2)</sup>	Software development, sales and marketing	72,059
Seattle, WA	Executive offices, hardware and software development, sales and marketing	51,643
San Jose, CA	Hardware and software development	21,733
Austin, TX	Hardware development	20,916

(1) Our lease commences on May 1, 2017.

(2) Our lease terminates on May 1, 2017.

We own 205,478 square feet of manufacturing, development, service and warehouse space in Chippewa Falls, Wisconsin, and lease the remaining space described above.

We lease a total of 5,600 square feet of office space, primarily for software development, in Pleasanton, California. We also lease a total of approximately 11,000 square feet, primarily for sales and service offices, in other domestic locations. In addition, various foreign sales and service subsidiaries have leased an aggregate of approximately 27,000 square feet of office space, in international locations. We believe our facilities are adequate to meet our needs at least through 2017.

**Item 3. Legal Proceedings**

For a discussion of legal proceedings, see *Note 12 — Commitments and Contingencies* in the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K.

**Item 4. Mine Safety Disclosures**

Not applicable.

## PART II

### Item 5. *Market for the Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities*

#### Price Range of Common Stock and Dividend Policy

Our common stock is traded on The NASDAQ Global Market under the symbol CRAY. As of February 6, 2017, we had 40,736,378 shares of common stock outstanding that were held by 436 holders of record.

The quarterly high and low sales prices of our common stock for the periods indicated are as follows:

	High	Low
<b>Year Ended December 31, 2016:</b>		
First Quarter	\$ 43.79	\$ 28.25
Second Quarter	\$ 43.40	\$ 27.39
Third Quarter	\$ 32.30	\$ 20.60
Fourth Quarter	\$ 23.68	\$ 16.77
<b>Year Ended December 31, 2015:</b>		
First Quarter	\$ 35.58	\$ 27.80
Second Quarter	\$ 32.62	\$ 27.44
Third Quarter	\$ 29.64	\$ 18.00
Fourth Quarter	\$ 35.93	\$ 19.35

We have not paid cash dividends on our common stock and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our Board of Directors and will be dependent on a number of factors, including our earnings, capital requirements and overall financial conditions. In addition, the terms of our credit agreement with Wells Fargo Bank currently restrict our ability to pay dividends.

#### Equity Compensation Plan Information

The following table provides information as of December 31, 2016, with respect to compensation plans under which shares of our common stock are authorized for issuance, including plans previously approved by our shareholders and plans not previously approved by our shareholders.

Plan Category	Number of Shares of Common Stock to be Issued Upon Exercise of Outstanding Options	Weighted-Average Exercise Price of Outstanding Options	Number of Shares of Common Stock Available for Future Issuance Under Equity Compensation Plans (excluding shares reflected in 1st column)
Equity compensation plans approved by shareholders <sup>(1)</sup>	1,956,013	\$ 17.19	3,600,599
Equity compensation plans not approved by shareholders <sup>(2)</sup>	33,124	\$ 5.09	—
<b>Total</b>	<b>1,989,137</b>		<b>3,600,599</b>

- (1) The shareholders approved our 1995, 1999 and 2003 stock option plans, our 2004, 2006 and 2009 long-term equity compensation plans, our 2013 equity incentive plan, as amended and restated, and our 2001 employee stock purchase plan, as amended. Our 1995, 1999 and 2003 stock option plans and our 2004, 2006 and 2009 long-term equity compensation plans have terminated and no more options, restricted shares, restricted share units or stock bonus awards may be granted under those plans. Pursuant to our 2013 equity incentive plan, incentive options may be granted to employees (including officers) and nonqualified options may be granted to employees, officers, directors, agents and consultants with exercise prices at least equal to the fair market value of the underlying common stock at the time of grant. While our Board of Directors may grant options with varying vesting periods under these plans, most options granted to employees vest over four years, with 25% of the options vesting after one year and the remaining options vesting monthly over the next three years, and most option grants to non-employee directors vesting immediately. Also pursuant to our 2013 equity incentive plan, our Board of Directors may grant restricted stock awards, stock bonus awards, stock appreciation rights, restricted stock units, performance shares and performance units to employees, directors, consultants, independent contractors and advisors. As of December 31, 2016,

under our 2013 equity incentive plan, an aggregate of 3,600,599 shares were available for grant as stock options or stock appreciation rights and an aggregate of 2,322,967 shares were available for restricted stock awards, stock bonus awards, restricted stock units, performance shares or performance units to employees, directors, consultants, independent contractors and advisors.

- (2) The shareholders did not approve our 2000 non-executive employee stock option plan. Under the 2000 non-executive employee stock option plan approved by our Board of Directors on March 30, 2000, an aggregate of 1,500,000 shares pursuant to non-qualified options could be issued to employees, agents and consultants but not to officers or directors. Otherwise, our 2000 non-executive employee stock option plan is similar to the stock option plans described in footnote (1) above. On March 30, 2010, our 2000 non-executive employee stock option plan was terminated, which ended future grants but did not affect then outstanding options. As of December 31, 2016, under our 2000 non-executive employee stock plan, we had options for 33,124 shares outstanding.

### **Unregistered Sales of Securities**

We had no unregistered sales of our securities in 2016 not previously reported.

### **Issuer Repurchases**

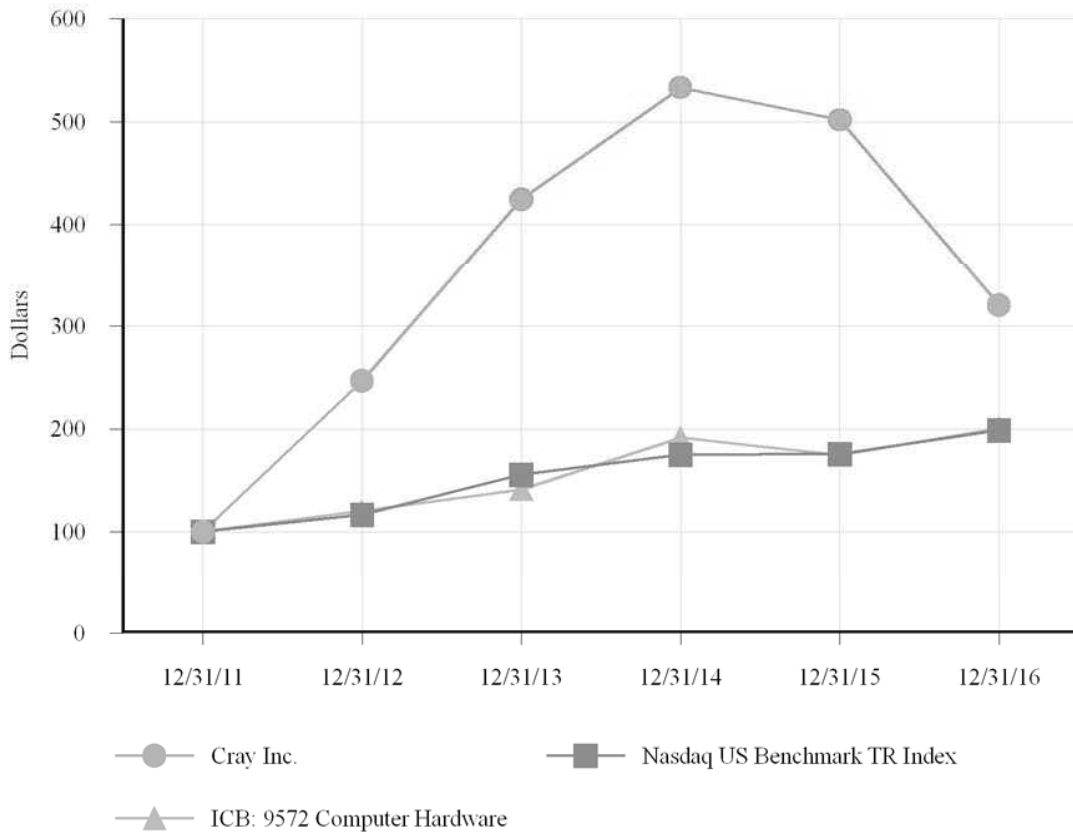
We did not repurchase any of our common stock in 2016, other than in connection with the forfeiture of common stock by holders of restricted stock and restricted stock units in exchange for payments by the Company of statutory tax withholding amounts on behalf of the holders arising as a result of the vesting of restricted stock and restricted stock units.

## STOCK PERFORMANCE GRAPHS

The graph below compares the cumulative total return to shareholders for our common stock with the comparable return of the NASDAQ OMX Global Indexes Nasdaq US Benchmark TR Index and the NASDAQ OMX Global Indexes ICB: 9572 Computer Hardware Index.

The graph assumes that a shareholder invested \$100 in our common stock on December 31, 2011, and that all dividends were reinvested. We have never paid cash dividends on our common stock. All return information is historical and is not necessarily indicative of future performance.

### COMPARISON OF CUMULATIVE TOTAL RETURN AMONG OUR COMMON STOCK, THE NASDAQ US BENCHMARK TR INDEX AND THE ICB: 9572 COMPUTER HARDWARE INDEX THROUGH DECEMBER 31, 2016



	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016
Cray Inc.	\$ 100.0	\$ 246.5	\$ 424.4	\$ 532.9	\$ 501.5	\$ 319.9
Nasdaq US Benchmark TR Index	100.0	116.4	155.4	174.8	175.6	198.5
ICB: 9572 Computer Hardware Index	100.0	119.9	141.0	191.2	174.1	200.6

## Item 6. Selected Consolidated Financial Data

The following table presents selected historical consolidated financial data for Cray Inc. and its subsidiaries, which is derived from our audited consolidated financial statements:

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(In thousands, except for per share data)				
<b>Operating Data:</b>					
Product revenue.....	\$ 499,432	\$ 601,294	\$ 460,748	\$ 436,330	\$ 353,767
Service revenue .....	130,377	123,395	100,858	89,419	67,291
Total revenue .....	629,809	724,689	561,606	525,749	421,058
Cost of product revenue .....	332,016	426,821	321,554	298,244	231,237
Cost of service revenue .....	77,578	72,185	55,638	43,179	38,643
Total cost of revenue.....	409,594	499,006	377,192	341,423	269,880
Gross profit.....	220,215	225,683	184,414	184,326	151,178
Research and development, net .....	112,130	96,563	94,048	87,728	64,303
Sales and marketing.....	64,893	60,150	57,785	51,345	37,180
General and administrative.....	34,053	27,966	23,381	23,603	20,707
Operating expenses .....	211,076	184,679	175,214	162,676	122,190
Net gain on sale of interconnect hardware development program.....	—	—	—	—	139,068
Income from operations.....	9,139	41,004	9,200	21,650	168,056
Other income (expense), net.....	(1,365)	365	(9)	(1,378)	472
Interest income, net .....	2,147	1,408	506	757	204
Income before income taxes.....	9,921	42,777	9,697	21,029	168,732
Benefit (provision) for income taxes.....	694	(15,240)	52,626	11,194	(7,491)
Net income .....	\$ 10,615	\$ 27,537	\$ 62,323	\$ 32,223	\$ 161,241
Net income per common share:					
Basic.....	\$ 0.27	\$ 0.70	\$ 1.61	\$ 0.85	\$ 4.42
Diluted.....	\$ 0.26	\$ 0.68	\$ 1.54	\$ 0.81	\$ 4.27
Weighted average outstanding shares:					
Basic.....	39,833	39,257	38,634	37,832	36,509
Diluted.....	41,012	40,691	40,435	39,776	37,789
<b>Cash Flow Data:</b>					
Cash provided by (used in):					
Operating activities.....	\$ (52,313)	\$ 147,756	\$ (58,109)	\$ (87,350)	\$ 156,892
Investing activities.....	8,998	7,216	(22,755)	27,211	37,694
Financing activities.....	(540)	(1,373)	(70)	(93)	7,827
Depreciation and amortization .....	14,684	17,017	16,324	14,242	8,652
Purchases of property and equipment.....	7,503	7,467	17,193	13,136	10,843
<b>Balance Sheet Data:</b>					
Cash, cash equivalents, restricted cash and investments .....	\$ 224,617	\$ 284,891	\$ 145,796	\$ 220,449	\$ 323,205
Working capital.....	392,145	415,187	361,614	334,928	283,352
Total assets.....	714,572	694,175	651,434	603,366	510,314
Shareholders' equity .....	525,476	492,510	453,854	375,587	340,546

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

### **Forward-Looking Statements**

The information set forth in "Management's Discussion and Analysis of Financial Condition and Results of Operations" below includes "forward-looking statements" as described in the section "Forward-Looking Statements" preceding Part I of this annual report on Form 10-K, and is subject to the safe harbor created by Section 27A of the Securities Act and Section 21E of the Exchange Act. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in Item 1A. Risk Factors in Part I and other sections of this annual report on Form 10-K and our other filings with the Securities and Exchange Commission. The following discussion should also be read in conjunction with the Consolidated Financial Statements and accompanying Notes thereto.

### **Overview and Executive Summary**

We design, develop, manufacture, market and service the high-end of the HPC market, primarily categories of systems commonly known as supercomputers and provide data analytics, artificial intelligence and storage solutions leveraging more than four decades of delivering the world's most advanced compute systems. We also provide software, system maintenance and support services and engineering services related to supercomputer systems and our data analytics, artificial intelligence and storage solutions. Our customers include domestic and foreign government and government-funded entities, academic institutions and commercial entities. Our key target markets are the supercomputing portion of the HPC market and the expanding big data markets. We provide customer-focused solutions based on three main models: (1) tightly integrated supercomputing and/or storage solutions, complete with highly tuned software, that stress capability, scalability, sustained performance and reliability at scale; (2) flexible commodity-based "cluster" supercomputing and storage solutions based upon utilizing best-of-breed components and working with our customers to define solutions that meet specific needs; and (3) integrated solutions that combine industry standard tools for large-scale analytics and artificial intelligence applications, as well as innovative graph analysis tools, and specialized computing platforms. All of our solutions also emphasize total cost of ownership, scalable price-performance and data center flexibility as key features. Our continuing strategy is to gain market share in the supercomputer market segment, extend our technology leadership and differentiation, maintain our focus on execution and profitability and grow by continuing to expand our share and addressable market in areas where we can leverage our experience and technology, such as in high performance storage systems and powerful analytic tools for large volumes of data, popularly referred to as "big data." We also meet diverse customer requirements by combining supercomputing, cluster supercomputing, and big data described above, into unique solutions offerings that work in a workflow-driven datacenter environment.

#### ***Summary of 2016 Results***

Total revenue decreased by \$94.9 million in 2016 compared to 2015, from \$724.7 million to \$629.8 million. Product revenue decreased by \$101.9 million and service revenue increased by \$7.0 million over the same period. The year over year decrease in product revenue was primarily driven by a slowdown in the HPC market that resulted in fewer opportunities in our traditional markets. In addition, the year over year comparison was impacted by two large systems that were accepted in the first quarter of 2015, accounting for approximately \$40.0 million in revenue, for which we had previously anticipated acceptance to occur in the fourth quarter of 2014. The year over year increase in service revenue was primarily driven by increased maintenance revenue which benefited from a larger installed system base as a result of product revenue growth in recent years.

Product gross profit margin increased from 29% in 2015 to 34% in 2016. The year over year increase in product gross margin percentage was driven by lower memory costs, partially offset by concessions and penalties and an increase in write-offs for excess and obsolete inventory. Gross profit margin from services decreased from 42% in 2015 to 40% in 2016 primarily due to \$3.0 million of costs incurred to replace a high-value third-party component in a customer system that is under a service contract, higher headcount and compensation expense, and higher third-party costs. These amounts were partially offset by a decrease in incentive compensation expense.

We recorded income from operations of \$9.1 million in 2016 compared to income from operations of \$41.0 million in 2015. The decrease in income from operations was primarily attributable to lower revenue, mostly offset by an improved gross margin percentage, and a \$26.4 million increase in operating expenses resulting primarily from increased spending on research and development.

Net income decreased from \$27.5 million in 2015 to \$10.6 million in 2016, primarily driven by the decrease in operating income discussed above, partially offset by a \$15.9 million decrease in income tax expense.

Net cash used in operations during 2016 was \$52.3 million, as compared to net cash provided by operations of \$147.8 million in 2015. Net cash used in operations during 2016 was primarily driven by a \$78.4 million increase in our accounts receivable



balance from December 31, 2015 to December 31, 2016. Cash receipts generally lag customer acceptances and we anticipate significant cash receipts in the first quarter of 2017 for a number of large customer acceptances in the fourth quarter of 2016. Working capital decreased by \$23.0 million from \$415.2 million at December 31, 2015 to \$392.1 million at December 31, 2016.

### ***Market Overview and Challenges***

Significant trends in the HPC industry include:

- supercomputing with many-core commodity processors driving increasing scalability requirements;
- increased micro-architectural diversity, including increased usage of many-core processors and accelerators, as the rate of increases in per-core performance slows;
- data I/O and capacity needs growing much faster than computational needs;
- technology innovations in memory and storage allowing for faster data access such as NVRAM, SSDs and flash devices;
- the commoditization of HPC hardware, particularly processors and system interconnects;
- the growing concentration of very large suppliers of key computing and storage components in the industry;
- the growing commoditization of software, including plentiful building blocks and more capable open source software;
- electrical power requirements becoming a design constraint and driver in total cost of ownership determinations;
- increasing use of analytics technologies (Hadoop, Spark, NoSQL and Graph) in both the HPC and big data markets;
- the rise of artificial intelligence along with machine learning and deep learning technologies which utilize HPC technologies for performance and scale;
- cloud computing as a solution for loosely-coupled HPC applications; and
- significant variability in market demand from quarter-to-quarter and year-to-year.

Several of these trends have resulted in the expansion and acceptance of loosely-coupled cluster systems using processors manufactured by Intel, AMD and others combined with commercially available, commodity networking and other components, particularly in the middle and lower segments of the HPC market. These systems may offer higher theoretical peak performance for equivalent cost, and “price/peak performance” is sometimes the dominant factor in HPC procurements. Vendors of such systems often put pricing pressure on us, resulting in lower margins in competitive procurements.

In the market for the largest, and most scalable systems, those often costing in excess of \$3 million, the use of generally available network components can result in increasing data transfer bottlenecks as these components do not balance processor power with network communication and system software capability. With increasing processor core counts due to new many-core processors, these unbalanced systems will typically have lower productivity, especially in larger systems running more complex applications. We and others augment standard microprocessors with other processor types, such as graphics processing units and many-core attached processors, in order to increase computational power, further complicating programming models. In addition, with increasing scale, bandwidth and processor core counts, large computer systems use progressively higher amounts of power to operate and require special cooling capabilities.

To position ourselves to meet the market’s demanding needs, we concentrate our research and development efforts on technologies that enable our supercomputers to perform at scale - that is, to continue to increase actual performance as systems grow ever larger in size - and in areas where we can leverage our core expertise in other markets whose applications demand these tightly coupled architectures. We also have demonstrated expertise in system software and several processor technologies. We expect to be in a comparatively advantageous position as larger many-core processors become available and as multiple processing technologies become integrated into single systems in heterogeneous environments. In addition, we have continued to expand our addressable market by leveraging our technologies, customer base, the Cray brand and by introducing complementary products and services to new and existing customers, as demonstrated by our emphasis on strategic initiatives, such as “big data” analytics, artificial intelligence and storage and data management.

In analytics, we are developing and delivering high performance data discovery and advanced analytics solutions. These solutions compete with open source software, running on commodity cluster systems. Although these competitive systems have low acquisition costs, the total cost of ownership, or TCO, is driven up by management, power and efficiency challenges. We concentrate our efforts on developing solutions that minimize the TCO, delivering faster time-to-solution and advanced capabilities that are key

drivers for many of our data analytics customers. We support open source technologies such as Hadoop and Spark to design large-scale data analytics stacks that simplify analyses of scientific and commercial applications.

In storage, we are developing and delivering high value products for the high performance storage market. Our storage products are primarily positioned to enable tight integration of storage to computing solutions and/or utilize parallel file processing technologies and facilitate storage across multiple data tiers. We support open source parallel file systems and protocols such as Lustre and we are a founding member of the OpenSFS (Open Scalable File System) consortia for Lustre.

We have also expanded our addressable market by providing cluster systems and solutions to the supercomputing market that allow us to offer flexible platforms to incorporate best of breed components to allow customers to optimize the system to fit their unique requirements.

### **Key Performance Indicators**

Our management monitors and analyzes several key performance indicators in order to manage our business and evaluate our financial and operating performance, including:

*Revenue.* Product revenue generally constitutes the major portion of our revenue in any reporting period and, for the reasons discussed in this annual report on Form 10-K, is subject to significant variability from period to period. In the short term, we closely review the status of customer proposals, customer contracts, product shipments, installations and acceptances in order to forecast revenue and cash receipts. In the longer-term, we monitor the status of the pipeline of product sales opportunities and product development cycles. We believe product revenue growth measured over several quarters is a better indicator of whether we are achieving our objective of increased market share in the supercomputing market. We have seen a decrease in the high-end of the supercomputing market in 2016 as compared to the last few years. The Cray XC and Cray CS products, along with our longer-term product roadmap are efforts to increase product revenue. We have been increasing our business and product development efforts in big data analytics, artificial intelligence and storage and data management. We have also been increasing the size of our sales force. Service revenue related to our maintenance offerings is subject to less variations in the short term and may assist, in part, to offset the impact that the variability in product revenue has on total revenue.

*Gross profit margin.* Gross profit margin is impacted by revenue and our cost to build and deliver our products and services. Our services tend to carry higher gross profit margins than our products. We monitor the cost of components, manufacturing, and installation of our products. In assessing our service gross profit margin, we monitor headcount levels and third-party costs.

*Operating expenses.* Our operating expenses are driven primarily by headcount and compensation expense, contracted third-party research and development services, and incentive compensation expense. As part of our ongoing expense management efforts, we continue to monitor headcount levels in specific geographic and operational areas.

*Liquidity and cash flows.* Due to the variability in product revenue, new contracts, acceptance and payment terms, our cash position also varies significantly from quarter-to-quarter and within a quarter. We monitor our expected cash levels, particularly in light of increased inventory purchases for large system installations and the risk of delays in product shipments, customer acceptances and, in the long-term, product development. Cash receipts generally lag customer acceptances.

## Results of Operations

### Revenue and Gross Profit

Our product and service revenue for the indicated years ended December 31 were (in thousands, except for percentages):

	Year Ended December 31,		
	2016	2015	2014
Product revenue .....	\$ 499,432	\$ 601,294	\$ 460,748
Less: Cost of product revenue .....	332,016	426,821	321,554
Product gross profit.....	\$ 167,416	\$ 174,473	\$ 139,194
Product gross profit percentage .....	34%	29%	30%
Service revenue.....	\$ 130,377	\$ 123,395	\$ 100,858
Less: Cost of service revenue .....	77,578	72,185	55,638
Service gross profit.....	\$ 52,799	\$ 51,210	\$ 45,220
Service gross profit percentage.....	40%	42%	45%
Total revenue .....	\$ 629,809	\$ 724,689	\$ 561,606
Less: Total cost of revenue .....	409,594	499,006	377,192
Total gross profit.....	\$ 220,215	\$ 225,683	\$ 184,414
Total gross profit percentage.....	35%	31%	33%

### Product Revenue

Product revenue for 2016 decreased by \$101.9 million, or 17%, over 2015, primarily driven by a slowdown in the HPC market that resulted fewer contract opportunities in our traditional markets. In addition, the year over year comparison was impacted by two large systems that were accepted in the first quarter of 2015, accounting for approximately \$40.0 million in revenue, for which we had previously anticipated acceptance to occur in the fourth quarter of 2014.

Product revenue for 2015 increased by \$140.5 million, or 31%, over 2014 due to customer acceptances of large Cray systems in Saudi Arabia, South Korea, and the United States, as well as several significant sales to commercial customers in 2015. In addition, in the first quarter of 2015, we had customer acceptances of two large systems, accounting for approximately \$40.0 million in revenue, for which we had previously anticipated acceptance to occur in the fourth quarter of 2014.

### Service Revenue

Service revenue for 2016 increased by \$7.0 million from 2015, or 6%. The year over year increase in service revenue was primarily driven by increased maintenance revenue which benefited from a larger installed system base as a result of product revenue growth in recent years.

Service revenue for 2015 increased by \$22.5 million from 2014, or 22%. The year over year increase in service revenue was driven by significant increases in both engineering services, as a result of milestone completions on certain projects, and maintenance revenue, which benefited from a larger installed system base as a result of product revenue growth in recent years.

### Cost of Product Revenue and Product Gross Profit

Cost of product revenue for 2016 decreased by \$94.8 million compared to 2015, driven primarily by lower product revenue and an improved product gross margin percentage. Product gross profit percentage was 34% in 2016 and 29% in 2015. The year over year increase in product gross margin percentage was driven by lower memory costs, partially offset by concessions and penalties and an increase in write-offs for excess and obsolete inventory.

Cost of product revenue for 2015 increased by \$105.3 million compared to 2014, driven by higher product revenue. Product gross profit percentage was 29% in 2015 and 30% in 2014. The product gross profit margin for 2015 was lower than it has been in recent years and was impacted by higher costs on a few large contracts that were not anticipated at the time of bidding, driven both by economic factors and technical issues.

### Cost of Service Revenue and Service Gross Profit

Cost of service revenue increased by \$5.4 million in 2016 compared to 2015, driven by a larger installed base of systems which also resulted in higher service revenue, and \$3.0 million of costs incurred to replace a high-value third-party component in a

customer system that is under a service contract. Service gross profit margin decreased by two percentage points to 40% in 2016 compared to 2015. The service gross profit margin decreased primarily due to \$3.0 million of costs incurred to replace a high-value third-party component described previously, higher headcount and compensation expense, and higher third-party costs. These amounts were partially offset by a decrease in incentive compensation expense.

Cost of service revenue increased by \$16.5 million in 2015 compared to 2014, driven primarily by a larger installed base of systems which also resulted in higher service revenue. Service gross profit margin decreased by three percentage points to 42% in 2015 compared to 2014. The service gross profit margin decreased primarily due to higher headcount and compensation expense, including significantly higher incentive compensation expense, higher third-party costs, as well as lower margins on certain engineering services contracts due to a high percentage of sub-contractor costs in those contracts.

## Operating Expenses

### *Research and Development*

Research and development expenses for the indicated years ended December 31 were as follows (in thousands, except for percentages):

	Year Ended December 31,		
	2016	2015	2014
Gross research and development expenses .....	\$ 130,006	\$ 126,060	\$ 104,797
Less: Amounts included in cost of revenue .....	(12,621)	(16,515)	(7,713)
Less: Reimbursed research and development (excludes amounts in revenue) .....	(5,255)	(12,982)	(3,036)
Net research and development expenses.....	\$ 112,130	\$ 96,563	\$ 94,048
Percentage of total revenue .....	18%	13%	17%

Gross research and development expenses in the table above reflect all research and development expenditures. Research and development expenses include personnel expenses, depreciation, allocations for certain overhead expenses, software, prototype materials and third-party contractor engineering expenses.

In 2016, gross research and development expenses increased by \$3.9 million from 2015 levels primarily due to increased investments in the development of new products. Total compensation costs increased by \$1.7 million compared to 2015, driven by higher average headcount, partially offset by lower incentive compensation expense. Expenses for outside services increased by \$1.3 million over the same period. Net research and development expenses increased by \$15.6 million compared to 2015 as a result of the increase in gross research and development expenses described above and a decrease in amounts included in cost of revenue and reimbursed research and development. The decrease in reimbursements was primarily driven by lower funding in 2016 compared to 2015 and the timing of milestone and project completions.

In 2015, gross research and development expenses increased by \$21.3 million from 2014 levels primarily due to increased investments in the development of new products and higher costs related to our engineering services contracts, which include pass-through costs to third parties. Total compensation costs for research and development increased by \$17.4 million compared to 2014. We increased our average headcount which resulted in higher base salaries of \$8.8 million. The higher total compensation costs also included the impact of an increase of \$5.2 million in incentive compensation expense as well as an increase of \$1.0 million in share-based compensation expense. Net research and development expenses increased by only \$2.5 million in 2015 compared to 2014 despite such a large increase in gross research and development expenses. This was a result of an increase in amounts included in cost of revenue and higher reimbursed research and development, driven by higher funding in 2015 compared to 2014 and the timing of milestone and project completions.

### **Other Operating Expenses**

Our sales and marketing and general and administrative expenses for the indicated years ended December 31 were (in thousands, except for percentages):

	Year Ended December 31,		
	2016	2015	2014
Sales and marketing .....	\$ 64,893	\$ 60,150	\$ 57,785
Percentage of total revenue .....	10%	8%	10%
General and administrative .....	\$ 34,053	\$ 27,966	\$ 23,381
Percentage of total revenue .....	5%	4%	4%

*Sales and Marketing.* Sales and marketing expense increased by \$4.7 million in 2016 compared to 2015. Total compensation costs for 2016 increased by \$3.6 million compared to 2015, driven by higher headcount, partially offset by lower incentive compensation expense. Marketing program spending also increased by \$0.8 million over the same period.

The \$2.4 million increase in sales and marketing expense in 2015 compared to 2014 was primarily due to increased incentive compensation expense.

*General and Administrative.* General and administrative expense increased by \$6.1 million in 2016 compared to 2015 primarily due to a \$6.0 million increase in litigation costs associated with our ongoing litigation with Raytheon, which is described in *Note 12 - Commitments and Contingencies* in the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K. We also incurred a \$2.3 million lease termination fee for our St. Paul facility. These amounts were partially offset by a \$2.1 million decrease in incentive compensation expense. Due to our ongoing litigation with Raytheon, we expect legal expenses to remain at above historical levels through at least the first quarter of 2017.

The \$4.6 million increase in general and administrative expense in 2015 compared to 2014 was primarily due to increased headcount, increased incentive compensation expense and increased outside services. Average headcount increased to support the growth in the business and resulted in an increase in base salaries of \$0.8 million. Incentive compensation expense increased by \$1.5 million and outside services increased by \$1.9 million compared to the prior year.

### **Other Income (Expense), Net**

We recorded \$1.4 million and \$9,000 of net other expense for the years ended December 31, 2016 and 2014, respectively, and \$0.4 million of net other income for the year ended December 31, 2015. Net other income and expense includes gains and losses from foreign currency transactions, investments and disposals of assets.

### **Interest Income, Net**

Our interest income and interest expense for the indicated years ended December 31 were (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Interest income .....	\$ 2,120	\$ 1,465	\$ 643
Interest expense .....	27	(57)	(137)
Net interest income .....	\$ 2,147	\$ 1,408	\$ 506

Interest income, net in 2016 increased as compared to 2015 due to amortization of unearned income on the sales-type lease that we entered into with a customer in the first half of 2016. Interest income, net in 2015 increased as compared to 2014 due to amortization of unearned income on the sales-type lease that we entered into with a customer in the second half of 2014.

## Taxes

We recorded income tax benefit (expense) for the indicated years ended December 31 as follows (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Net income before income taxes.....	\$ 9,921	\$ 42,777	\$ 9,697
Tax benefit (expense).....	694	(15,240)	52,626
Net income.....	\$ 10,615	\$ 27,537	\$ 62,323
Effective tax rate.....	(7)%	36%	(543)%

The difference between the income tax benefit at the federal statutory rate of 35% and our income tax expense at the effective rate of (7)% for the year ended December 31, 2016 was the result of research and development tax credits and additional tax deductions from share-based payments, sometimes referred to as excess tax benefits, partially offset by state taxes, non-deductible expenses and other permanent items. Excess tax benefits arise when tax deductions that we recognize with respect to share-based compensation exceed the compensation cost attributable to share-based compensation that was recognized in our consolidated financial statements. The difference between the income tax provision at the federal statutory rate of 35% and our income tax expense at the effective income tax rate of 36% for the year ended December 31, 2015 was the result of state taxes, non-deductible expenses and other permanent items, partially offset by research and development tax credits. The difference between the income tax provision at the federal statutory rate of 35% and our income tax benefit at the effective rate of (543)% for the year ended December 31, 2014 was attributable to our decision to reduce substantially all of the remaining valuation allowance that was held against our U.S. deferred tax assets.

During the year ended December 31, 2014, we reduced the valuation allowance held against our U.S. deferred tax assets by \$55.7 million based upon an assessment of all positive and negative evidence relating to future years. We consider our actual results over several years to have stronger weight than other more subjective indicators, including forecasts, when considering whether or not to establish or reduce a valuation allowance on deferred tax assets and believe that our ability to forecast results significantly into the future is limited due to the rapid rate of technological and competitive change in the industry in which we operate. As of December 31, 2014 we had generated U.S. pre-tax income in each of the last three years and cumulative U.S. pre-tax income of \$184.8 million (\$51.1 million excluding the impact of the sale of our interconnect hardware development program) over the last three years. In addition to our cumulative income position, the assessment of our ability to utilize our U.S. deferred tax assets included an assessment of forecasted domestic and international earnings over a number of years, which included the impact of several major contracts that were finalized during the fourth quarter of 2014.

Our conclusion about the realizability of our deferred tax assets, and therefore the appropriateness of the valuation allowance, is reviewed quarterly and could change in future periods depending on our future assessment of all available evidence in support of the likelihood of realization of our deferred tax assets. If our conclusion about the realizability of our deferred tax assets and therefore the appropriateness of our valuation allowance changes in a future period, we could record a substantial tax provision or benefit in our Consolidated Statements of Operations when that occurs.

As of December 31, 2016, we had U.S. federal net operating loss carryforwards of approximately \$90.2 million and U.S. federal research and development tax credit carryforwards of approximately \$25.2 million. The federal net operating loss carryforwards will expire between 2019 through 2036, and the research and development tax credits will expire from 2021 through 2036 if not utilized.

### *New Accounting Pronouncements*

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers: Topic 606, or ASU 2014-09, to supersede nearly all existing revenue recognition guidance under GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. ASU 2014-09 defines a five step process to achieve this core principle and, in doing so, it is possible more judgment and estimates may be required within the revenue recognition process than required under existing GAAP, including identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. Adoption of ASU 2014-09 was initially required for fiscal and interim reporting periods beginning after December 15, 2016 using either of two methods: (i) retrospective to each prior reporting period presented with the option to elect certain practical expedients as defined within ASU 2014-09; or (ii) retrospective with the cumulative effect of initially

applying ASU 2014-09 recognized at the date of initial application and providing certain additional disclosures as defined per ASU 2014-09.

In August 2015, FASB issued Accounting Standards Update No. 2015-14, Revenue from Contracts with Customers - Deferral of the Effective Date: Topic 606, or ASU 2015-14, that deferred the effective date of ASU 2014-09 by one year. Application of the new revenue standard is permitted for fiscal and interim reporting periods beginning after December 15, 2016 and required for fiscal and interim reporting periods beginning after December 15, 2017. We are currently evaluating the impact of the adoption of ASU 2014-09. We will be required to make additional disclosures under the new guidance. However, at this time, we do not expect adoption of ASU 2014-09 to have a material impact on our consolidated financial statements.

In July 2015, FASB issued Accounting Standards Update No. 2015-11, Simplifying the Measurement of Inventory: Topic 330, or ASU 2015-11, to amend Topic 330, Inventory. Topic 330 currently requires an entity to measure inventory at the lower of cost or market. Market could be replacement cost, net realizable value, or net realizable value less an approximately normal profit margin. ASU 2015-11 requires that inventory measured using either the first-in, first-out, or FIFO, or average cost method be measured at the lower of cost and net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. We will adopt ASU 2015-11 as required in our 2017 interim and annual reporting periods. We do not expect the adoption of ASU 2015-11 to have a material impact on our consolidated financial statements.

In November 2015, FASB issued Accounting Standards Update No. 2015-17, Balance Sheet Classification of Deferred Taxes: Topic 740, or ASU 2015-17. Current GAAP requires the deferred taxes for each jurisdiction to be presented as a net current asset or liability and net noncurrent asset or liability. This requires a jurisdiction-by-jurisdiction analysis based on the classification of the assets and liabilities to which the underlying temporary differences relate, or, in the case of loss or credit carryforwards, based on the period in which the attribute is expected to be realized. Any valuation allowance is then required to be allocated on a pro rata basis, by jurisdiction, between current and noncurrent deferred tax assets. The new guidance requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. As a result, each jurisdiction will now only have one net noncurrent deferred tax asset or liability. The guidance does not change the existing requirement that only permits offsetting within a jurisdiction. Adoption of ASU 2015-17 is required for fiscal reporting periods beginning after December 15, 2016, including interim reporting periods within those fiscal years, and either prospective or retrospective application is permitted. Early adoption of ASU 2015-17 is permitted. At the time of adoption, all of our deferred tax assets and liabilities, along with any related valuation allowance, will be classified as noncurrent on our Consolidated Balance Sheet. We will adopt ASU 2015-17 in our 2017 interim and annual reporting periods.

In January 2016, FASB issued Accounting Standards Update No. 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities: Topic 825, or ASU 2016-01. The updated guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. Adoption of ASU 2016-01 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years. We do not expect the adoption of ASU 2016-01 to have a material impact on our consolidated financial statements.

In February 2016, FASB issued Accounting Standards Update No. 2016-02, Leases: Topic 842, or ASU 2016-02, that replaces existing lease guidance. The new standard is intended to provide enhanced transparency and comparability by requiring lessees to record right-of-use assets and corresponding lease liabilities on the balance sheet. Under the new guidance, leases will continue to be classified as either finance or operating, with classification affecting the pattern of expense recognition in the Consolidated Statements of Operations. Lessor accounting is largely unchanged under ASU 2016-02. Adoption of ASU 2016-02 is required for fiscal reporting periods beginning after December 15, 2018, including interim reporting periods within those fiscal years with early adoption being permitted. The new standard is required to be applied with a modified retrospective approach to each prior reporting period presented with various optional practical expedients. We are currently evaluating the potential impact of the pending adoption of ASU 2016-02 on our consolidated financial statements.

In March 2016, FASB issued Accounting Standards Update No. 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, or ASU 2016-09. The updated guidance simplifies and changes how companies account for certain aspects of share-based payment awards to employees, including accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification of certain items in the statement of cash flows. Adoption of ASU 2016-09 is required for fiscal reporting periods beginning after December 15, 2016, including interim reporting periods within those fiscal years with early adoption being permitted. We early-adopted ASU 2016-09 at the beginning of the first quarter of 2016.

At the time of adoption of ASU 2016-09, we recognized \$16.6 million in deferred tax assets for all excess tax benefits that had not been previously recognized because the related tax deduction had not reduced taxes payable. This was accomplished through a cumulative-effect adjustment to accumulated deficit. All excess tax benefits and all tax deficiencies generated in the current and future periods will be recorded as income tax benefit or expense in our Consolidated Statements of Operations in the reporting period in which they occur. This will result in increased volatility in our effective tax rate. We have determined that none of the other provisions of ASU 2016-09 will have a significant impact on our consolidated financial statements.

In August 2016, FASB issued Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments, or ASU 2016-15. The updated guidance clarifies how companies present and classify certain cash receipts and cash payments in the statement of cash flows. Adoption of ASU 2016-15 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years with early adoption being permitted. We do not expect the adoption of ASU 2016-15 to have a material impact on our consolidated financial statements.

In November 2016, FASB issued Accounting Standards Update No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, or ASU 2016-18, which amends ASC 230 to add or clarify guidance on the classification and presentation of restricted cash in the statement of cash flows. The amended guidance requires that amounts that are deemed to be restricted cash and restricted cash equivalents be included in the cash and cash-equivalent balances in the statement of cash flows. A reconciliation between the statement of financial position and the statement of cash flows must be disclosed when the statement of financial position includes more than one line item for cash, cash equivalents, restricted cash, and restricted cash equivalents. The guidance also requires that changes in restricted cash and restricted cash equivalents that result from transfers between cash, cash equivalents, and restricted cash and restricted cash equivalents should not be presented as cash flow activities in the statement of cash flows. An entity with a material balance of amounts generally described as restricted cash and restricted cash equivalents must disclose information about the nature of the restrictions. Adoption of ASU 2016-18 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years with early adoption being permitted. We do not expect the adoption of ASU 2016-18 to have a material impact on our consolidated financial statements.

In January 2017, FASB issued Accounting Standards Update No. 2017-04, Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment, or ASU 2017-04, which eliminates Step 2 from the goodwill impairment test. ASU 2017-04 also eliminates the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. Adoption of ASU 2017-04 is required for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019 with early adoption being permitted for annual or interim goodwill impairment tests performed on testing dates after January 1, 2017. We do not expect the adoption of ASU 2017-04 to have a material impact on our consolidated financial statements.

## **Liquidity and Capital Resources**

We generate cash from operations predominantly from the sale of supercomputing systems and related services. We typically have a small number of significant contracts that make up the majority of total revenue. We have also entered into a sales-type lease agreement with a customer, under which we will receive quarterly payments over the term of the lease, which expires in September 2020. Material changes in certain of our balance sheet accounts were due to the timing of product deliveries and customer acceptances, contractually determined billings, timing and level of inventory purchased for future deliveries, timing and level of incentive compensation and cash collections. Working capital requirements, including inventory purchases and normal capital expenditures, are generally funded with cash from operations.

We previously contemplated expanding our manufacturing capabilities in Chippewa Falls, Wisconsin in order to increase our manufacturing capacity. This project, which we estimated would require total capital expenditures in the range of \$25.0 million, is currently suspended. The decision of when and whether to undertake this project in the future will be dependent on our expectations of future needs.

Total cash and investments decreased from \$284.9 million at December 31, 2015 to \$224.6 million at December 31, 2016, primarily driven by the timing of collections from customers. As of December 31, 2016, \$14.3 million of our total cash and investments balance was held by foreign subsidiaries. As of December 31, 2016, we had \$1.7 million in restricted cash associated with certain letters of credit outstanding to secure customer prepayments. As of December 31, 2016, we had working capital of \$392.1 million compared to \$415.2 million as of December 31, 2015.



Cash flow information for the indicated years ended December 31 included the following (in thousands):

	2016	2015	2014
Cash provided by (used in):.....			
Operating Activities.....	\$ (52,313)	\$ 147,756	\$ (58,109)
Investing Activities.....	8,998	7,216	(22,755)
Financing Activities.....	(540)	(1,373)	(70)

*Operating Activities.* For the year ended December 31, 2016, cash used in operating activities was primarily driven by a \$78.4 million increase in our accounts receivable balance from December 31, 2015 to December 31, 2016. Cash receipts generally lag customer acceptances and, because we had a number of large customer acceptances in the fourth quarter of 2016, we anticipate significant cash receipts in the first quarter of 2017. For the year ended December 31, 2015, cash provided by operating activities was primarily driven by net income of \$27.5 million and the positive impact of adding back non-cash operating items of \$42.4 million, customer acceptances of our systems that resulted in a decrease of \$21.3 million in inventory, and collections from customers that resulted in a decrease of \$36.7 million in accounts and other receivables.

*Investing Activities.* For the year ended December 31, 2016, cash provided by investing activities was principally due to sales and maturities of debt securities of \$31.0 million, partially offset by purchases of debt securities of \$16.2 million and purchases of property and equipment of \$7.5 million. For the year ended December 31, 2015, cash provided by investing activities was principally due to sales and maturities of debt securities of \$16.2 million and a release of \$13.4 million in restricted cash related to a prepayment on a system from a customer that was released at the time of delivery, partially offset by purchases of debt securities of \$15.0 million and purchases of property and equipment of \$7.5 million.

*Financing Activities.* Net cash used in financing activities in 2016, 2015 and 2014 resulted primarily from statutory tax withholding amounts made in exchange for the forfeiture of common stock by holders of vesting restricted stock, partially offset by cash received from the issuance of common stock from the exercise of options and from the issuance of stock through our employee stock purchase plan.

Over the next twelve months, we expect our significant cash requirements will relate to operational expenses. Operational expenses consist primarily of personnel costs, costs of inventory associated with certain large-scale product deliveries, spare parts, outside engineering expenses, and the acquisition of property and equipment. In addition, we lease certain equipment and facilities used in our operations under operating leases in the normal course of business.

The following table summarizes our contractual cash obligations as of December 31, 2016 (in thousands):

Contractual Obligations	Amounts Committed by Year				
	Total	1 Year	Years 2-3	Years 4-5	Thereafter
Development agreements.....	\$ 18,588	\$ 16,002	\$ 2,571	\$ 15	\$ —
Operating leases.....	58,455	6,585	13,383	11,767	26,720
Total contractual cash obligations.....	\$ 77,043	\$ 22,587	\$ 15,954	\$ 11,782	\$ 26,720

In the second quarter of 2016, we entered into a new operating lease for facilities in Bloomington, Minnesota that will principally be staffed with teams from software development, sales and service. This new lease will replace our existing lease in St. Paul, Minnesota. The new lease is for a minimum period of eight years beginning in May 2017. Minimum contractual obligations under the new lease total \$32.6 million. We paid an early termination fee of approximately \$2.3 million to terminate our existing lease in St. Paul, Minnesota which was recorded as an operating expense in 2016. We received a one-time lease incentive payment of \$2.3 million as part of our new lease agreement to cover the termination fee, which will be amortized over the term of the new lease. We anticipate that 2017 spending on leasehold improvements for the new facilities will be approximately \$5.5 million.

As of December 31, 2016, we had a \$50.0 million revolving line of credit, or Credit Facility, with Wells Fargo Bank, National Association, designed to be used for general corporate purposes, including working capital requirements and capital expenditures. The Credit Facility also supports the issuance of letters of credit. The Credit Facility is secured by a first priority lien in all of our accounts receivable and other rights to payment, general intangibles, inventory and equipment.

Any borrowings under the Credit Facility bear interest at either a fluctuating rate equal to the daily one month LIBOR rate plus a margin of 1.25% or a fixed interest rate for one, three or six months equal to the LIBOR rate for the applicable period plus a margin of 1.25%. We are also required to pay the lender customary letter of credit fees, and a commitment fee of 0.18% per annum

in respect of the unutilized commitment amount under the Credit Facility. The Credit Facility requires that we maintain certain financial ratios and restricts our ability to incur additional indebtedness, pay dividends or distributions, create liens on assets, and engage in certain other activities. We were in compliance with all of our financial covenants as of the end of each quarter for the year ended December 31, 2016. The Credit Facility matures in December 2017.

We made no draws and had no outstanding cash borrowings on the line of credit as of December 31, 2016.

As of December 31, 2016, we had \$3.3 million in USD equivalent value in outstanding letters of credit and \$1.7 million in restricted cash associated with certain letters of credit to secure customer prepayments and other customer related obligations.

In our normal course of operations, we have development arrangements under which we engage outside engineering resources to work on our research and development projects. For the year ended December 31, 2016, we incurred \$15.6 million for such arrangements.

At any particular time, our cash position is affected by the timing of cash receipts for product sales, maintenance contracts, government co-funding for research and development activities and our payments for inventory, resulting in significant fluctuations in our cash balance from quarter-to-quarter and within a quarter. Our principal sources of liquidity are our cash and cash equivalents, short-term investments and cash from operations. We expect our cash resources to be adequate for at least the next twelve months.

Beyond the next twelve months, the adequacy of our cash resources will largely depend on our success in achieving profitable operations and positive operating cash flows on a sustained basis.

### **Critical Accounting Policies and Estimates**

This discussion, as well as disclosures included elsewhere in this annual report on Form 10-K, is based upon our financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingencies. In preparing our financial statements in accordance with GAAP, there are certain accounting policies that are particularly important. These include revenue recognition, inventory valuation, accounting for income taxes, research and development expenses and share-based compensation. We believe these accounting policies and others set forth in *Note 2 — Summary of Significant Accounting Policies* of the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K should be reviewed as they are integral to understanding our results of operations and financial condition. In some cases, these policies represent required accounting. In other cases, they may represent a choice between acceptable accounting methods or may require substantial judgment or estimation.

Additionally, we consider certain judgments and estimates to be significant, including those relating to the estimated selling price determination used in revenue recognition, percentage of completion accounting, estimates of proportional performance on co-funded engineering contracts, collectibility of receivables, determination of inventory at the lower of cost or market, the value of used equipment returned or to be returned associated with customer contracts, useful lives for depreciation and amortization, determination of future cash flows associated with impairment testing of long-lived assets, including goodwill and other intangibles, determination of the implicit interest rate used in the sales-type lease calculation, estimated warranty liabilities, determination of the fair value of stock options and other assessments of fair value, evaluation of the probability of vesting of performance-based restricted stock and restricted stock units, calculation of deferred income tax assets, including estimates of future financial performance in the determination of the likely recovery of deferred income tax assets, our ability to utilize such assets, potential income tax assessments, the outcome of any legal proceedings and other contingencies. We base our estimates on historical experience, current conditions and on other assumptions that we believe to be reasonable under the circumstances. Actual results may differ materially from these estimates and assumptions.

Our management has discussed the selection of significant accounting policies and the effect of judgments and estimates with the Audit Committee of our Board of Directors.

#### ***Revenue Recognition***

We recognize revenue, including transactions under sales-type leases, when it is realized or realizable and earned. We consider revenue realized or realizable and earned when we have persuasive evidence of an arrangement, delivery has occurred, the sales price is fixed or determinable, and collectibility is reasonably assured. Delivery does not occur until the products have been shipped or services provided to the customer, the risk of loss has transferred to the customer, and, where applicable, a customer acceptance has been obtained. The sales price is not considered to be fixed or determinable until all material contingencies related to the sales have been resolved. We record revenue in the Consolidated Statements of Operations net of any sales, use, value added or certain excise taxes imposed by governmental authorities on specific sales transactions. In addition to the aforementioned general

policy, the following are our statements of policy with regard to multiple-element arrangements and specific revenue recognition policies for each major category of revenue.

*Multiple-Element Arrangements.* We commonly enter into revenue arrangements that include multiple deliverables of our product and service offerings due to the needs of our customers. Products may be delivered in phases over time periods which can be as long as five years. Maintenance services generally begin upon acceptance of the first equipment delivery and future deliveries of equipment generally have an associated maintenance period. We consider the maintenance period to commence upon acceptance of the product, or installation of the product where a formal acceptance is not required, which may include a warranty period and accordingly allocate a portion of the arrangement consideration as a separate deliverable which is recognized as service revenue over the entire service period. Other services such as training and engineering services can be delivered as a discrete delivery or over the term of the contract. A multiple-element arrangement is separated into more than one unit of accounting if the following criteria are met:

- The delivered item(s) has value to the customer on a standalone basis; and
- If the arrangement includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in our control.

If these criteria are met for each element, the arrangement consideration is allocated to the separate units of accounting based on each unit's relative selling price. If these criteria are not met, the arrangement is accounted for as one unit of accounting which would result in revenue being recognized ratably over the contract term or being deferred until the earlier of when such criteria are met or when the last undelivered element is delivered.

We follow a selling price hierarchy in determining the best estimate of the selling price of each deliverable. Certain products and services are sold separately in standalone arrangements for which we are sometimes able to determine vendor specific objective evidence, or VSOE. We determine VSOE based on normal pricing and discounting practices for the product or service when sold separately.

When we are not able to establish VSOE for all deliverables in an arrangement with multiple elements, we attempt to establish the selling price of each remaining element based on third-party evidence, or TPE. Our inability to establish VSOE is often due to a relatively small sample of customer contracts that differ in system size and contract terms which can be due to infrequently selling each element separately, not pricing products within a narrow range, or only having a limited sales history, such as in the case of certain advanced and emerging technologies. TPE is determined based on our prices or competitor prices for similar deliverables when sold separately. However, we are often unable to determine TPE, as our offerings usually contain a significant level of customization and differentiation from those of competitors and we are often unable to reliably determine what similar competitor products' selling prices are on a standalone basis.

When we are unable to establish selling price using VSOE or TPE, we use estimated selling price, or ESP, in our allocation of arrangement consideration. The objective of ESP is to determine the price at which we would transact a sale if the product or service were sold on a standalone basis. In determining ESP, we use the cost to provide the product or service plus a margin, or consider other factors. When using cost plus a margin, we consider the total cost of the product or service, including customer-specific and geographic factors. We also consider the historical margins of the product or service on previous contracts and several factors including any changes to pricing methodologies, competitiveness of products and services and cost drivers that would cause future margins to differ from historical margins.

*Products.* We most often recognize revenue from sales of products upon delivery or customer acceptance of the system. Where formal acceptance is not required, we recognize revenue upon delivery or installation. When the product is part of a multiple element arrangement, we allocate a portion of the arrangement consideration to product revenue based on estimates of selling price.

*Services.* Maintenance services are provided under separate maintenance contracts with customers. These contracts generally provide for maintenance services for one year, although some are for multi-year periods, often with prepayments for the term of the contract. We consider the maintenance period to commence upon acceptance of the product or installation in situations where a formal acceptance is not required, which may include a warranty period. When service is part of a multiple element arrangement, we allocate a portion of the arrangement consideration to maintenance service revenue based on estimates of selling price. Maintenance contracts that are billed in advance of revenue recognition are recorded as deferred revenue. Maintenance revenue is recognized ratably over the term of the maintenance contract.

Revenue from engineering services is recognized as services are performed.

*Project Revenue.* Revenue from design and build contracts is recognized under the percentage-of-completion, or POC method. Under the POC method, revenue is recognized based on the costs incurred to date as a percentage of the total estimated costs to

fulfill the contract. If circumstances arise that change the original estimates of revenues, costs, or extent of progress toward completion, revisions to the estimates are made. These revisions may result in increases or decreases in estimated revenues or costs, and such revisions are recorded in income in the period in which the circumstances that gave rise to the revision become known by management. We perform ongoing profitability analyses of our contracts accounted for under the POC method in order to determine whether the latest estimates of revenue, costs and extent of progress require updating. If at any time these estimates indicate that the contract will be unprofitable, the entire estimated loss for the remainder of the contract is recorded immediately.

We record revenue from certain research and development contracts which include milestones using the milestone method if the milestones are determined to be substantive. A milestone is considered to be substantive if management believes there is substantive uncertainty that it will be achieved and the milestone consideration meets all of the following criteria:

- It is commensurate with either of the following:
  - Our performance to achieve the milestone; or
  - The enhancement of value of the delivered item or items as a result of a specific outcome resulting from our performance to achieve the milestone.
- It relates solely to past performance.
- It is reasonable relative to all of the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

The individual milestones are determined to be substantive or non-substantive in their entirety and milestone consideration is not bifurcated.

Revenue from projects is classified as Product Revenue or Service Revenue, based on the nature of the work performed.

*Nonmonetary Transactions.* We value and record nonmonetary transactions at the fair value of the asset surrendered unless the fair value of the asset received is more clearly evident, in which case the fair value of the asset received is used.

#### ***Inventory Valuation***

We record our inventory at the lower of cost or market. We regularly evaluate the technological usefulness and anticipated future demand for our inventory components. Due to rapid changes in technology and the increasing demands of our customers, we are continually developing new products. Additionally, during periods of product or inventory component upgrades or transitions, we may acquire significant quantities of inventory to support estimated current and future production and service requirements. As a result, it is possible that older inventory items we have purchased may become obsolete, be sold below cost or be deemed in excess of quantities required for production or service requirements. When we determine it is not likely we will recover the cost of inventory items through future sales, we write-down the related inventory to our estimate of its market value.

Because the products we sell have high average sales prices and because a high number of our prospective customers receive funding from U.S. or foreign governments, it is difficult to estimate future sales of our products and the timing of such sales. It also is difficult to determine whether the cost of our inventories will ultimately be recovered through future sales. While we believe our inventory is stated at the lower of cost or market and that our estimates and assumptions to determine any adjustments to the cost of our inventories are reasonable, our estimates may prove to be inaccurate. We have sold inventory previously reduced in part or in whole to zero, and we may have future sales of previously written-down inventory. We also may incur additional expenses to write-down inventory to its estimated market value. Adjustments to these estimates in the future may materially impact our operating results.

#### ***Accounting for Income Taxes***

Deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and operating loss and tax credit carryforwards and are measured using the enacted tax rates and laws that will be in effect when the differences and carryforwards are expected to be recovered or settled. A valuation allowance for deferred tax assets is provided when we estimate that it is more likely than not that all or a portion of the deferred tax assets will not be realized through future operations. This assessment is based upon consideration of available positive and negative evidence, which includes, among other things, our recent results of operations and expected future profitability. We consider our actual historical results over several years to have stronger weight than other more subjective indicators, including forecasts, when considering whether to establish or reduce a valuation allowance on deferred tax assets. We have significant difficulty projecting future results due to the nature of the business and the industry in which we operate.

Our deferred tax assets increased by \$16.6 million as a result of the adoption of ASU 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, or ASU 2016-09. No changes were required to previously recorded valuation allowances at the time of adoption. ASU 2016-09 will result in increased volatility in our effective tax rate.

As of December 31, 2016, we had approximately \$94.3 million of net deferred tax assets before application of a valuation allowance. As of December 31, 2016, net deferred tax assets after reduction by the valuation allowance of \$8.7 million were \$85.6 million. During the year ended December 31, 2014, we reduced substantially all of the remaining valuation allowance held against our U.S. deferred tax assets. The assessment of our ability to utilize our deferred tax assets included an assessment of all known business risks and industry trends as well as forecasted domestic and international earnings over a number of years. Our ability to forecast results significantly into the future is limited due to the rapid rate of technological and competitive change in the industry in which we operate.

We continue to provide a valuation allowance against specific U.S. deferred tax assets and a full valuation allowance against deferred tax assets arising in a limited number of foreign jurisdictions as the realization of such assets is not considered to be more likely than not at this time. In a future period our assessment of the realizability of our deferred tax assets and therefore the appropriateness of the valuation allowance could change based on an assessment of all available evidence, both positive and negative in that future period. If our conclusion about the realizability of our deferred tax assets and therefore the appropriateness of the valuation allowance changes in a future period we could record a substantial tax provision or benefit in our Consolidated Statements of Operations when that occurs. We recognize the income tax benefit from a tax position only if it is more likely than not that the tax position will be sustained on examination by the applicable taxing authorities, based on the technical merits of our position. The tax benefit recognized in the financial statements from such a position is measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement.

Estimated interest and penalties are recorded as a component of interest expense and other expense, respectively.

#### ***Research and Development Expenses***

Research and development expenses include costs incurred in the development and production of our hardware and software, costs incurred to enhance and support existing product features, costs incurred to support and improve our development processes, and costs related to future product development. Research and development costs are expensed as incurred, and may be offset by co-funding from third parties. We may also enter into arrangements whereby we make advance, non-refundable payments to a vendor to perform certain research and development services. These payments are deferred and recognized over the vendor's estimated performance period.

Amounts to be received under co-funding arrangements with the U.S. government or other customers are based on either contractual milestones or costs incurred. These co-funding milestone payments are recognized in operations as performance is estimated to be completed and are measured as milestone achievements occur or as costs are incurred. These estimates are reviewed on a periodic basis and are subject to change, including in the near term. If an estimate is changed, net research and development expense could be impacted significantly.

We do not record a receivable from the U.S. government prior to completing the requirements necessary to bill for a milestone or cost reimbursement. Funding from the U.S. government is subject to certain budget restrictions and milestones may be subject to completion risk, and as a result, there may be periods in which research and development costs are expensed as incurred for which no reimbursement is recorded, as milestones have not been completed or the U.S. government has not funded an agreement. Accordingly, there can be substantial variability in the amount of net research and development expenses from quarter to quarter and year to year.

We classify amounts to be received from funded research and development projects as either revenue or a reduction to research and development expense based on the specific facts and circumstances of the contractual arrangement, considering total costs expected to be incurred compared to total expected funding and the nature of the research and development contractual arrangement. In the event that a particular arrangement is determined to represent revenue, the corresponding costs are classified as cost of revenue.

#### ***Share-based Compensation***

We measure compensation cost for share-based payment awards at fair value and recognize it as compensation expense over the service period for awards expected to vest. We recognize share-based compensation expense for all share-based payment awards, net of an estimated forfeiture rate. We recognize compensation cost for only those shares expected to vest on a straight-line basis over the requisite service period of the award.

Determining the appropriate fair value model and calculating the fair value of share-based payment awards requires subjective assumptions, including the expected life of the share-based payment awards and stock price volatility. We utilize the Black-Scholes options pricing model to value the stock options granted under our options plans. In this model, we utilize assumptions related to stock price volatility, stock option term and forfeiture rates that are based upon both historical factors as well as management's judgment.

The fair value of restricted stock and restricted stock units is determined based on the number of shares or units granted and the quoted price of our common stock at the date of grant.

We grant performance vesting restricted stock and performance vesting restricted stock units to executives as one of the ways to align compensation with shareholder interests. Vesting of these awards is contingent upon achievement of certain performance conditions. Compensation expense for these awards is only recognized when vesting is deemed to be "probable". Awards are evaluated for probability of vesting during each reporting period.

## **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

We are exposed to financial market risks, including changes in interest rates and equity price fluctuations.

*Interest Rate Risk:* We invest our available cash in money market mutual funds whose underlying investments include investment-grade debt instruments of corporate issuers and in debt instruments of the U.S. government and its agencies. We do not have any derivative instruments or auction rate securities in our investment portfolio. We protect and preserve invested funds by limiting default, market and reinvestment risk. Investments in both fixed-rate and floating-rate interest earning instruments carry a degree of interest rate risks. Fixed-rate securities may have their fair market value adversely affected due to a rise in interest rates, while floating-rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates or we may suffer losses in principal if forced to sell securities which have declined in market value due to changes in interest rates. Although we are subject to the above noted risks, we believe that a 0.5% change in interest rates would not be material.

*Foreign Currency Risk:* We sell our products primarily in North America, Asia and Europe. As a result, our financial results could be affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets. Our products are generally priced based on U.S. dollars, and a strengthening of the U.S. dollar could make our products less competitive in foreign markets. While we often sell products with payments in U.S. dollars, our product sales contracts may call for payment in foreign currencies and to the extent we do so, or engage with our foreign subsidiaries in transactions deemed to be either short-term or long-term in nature, we are subject to foreign currency exchange risks.

As of December 31, 2016, we had entered into foreign currency exchange contracts that were designated as cash flow hedges that hedge approximately \$46.9 million of anticipated cash receipts on specific foreign currency denominated sales contracts. These foreign currency exchange contracts hedge the risk of foreign exchange rate changes between the time that the related contracts were signed and when the cash receipts are expected to be received. As of December 31, 2016, we had entered into foreign currency exchange contracts that had been redesignated for the purposes of hedge accounting treatment totaling \$107.5 million. Unrealized gains or losses recorded in the Consolidated Statements of Operations related to these contracts are generally offset by foreign currency adjustments on related receivables. These foreign currency exchange contracts are considered to be economic hedges.

Our foreign maintenance contracts are typically paid in local currencies and provide a partial natural hedge against foreign exchange exposure. To the extent that we wish to repatriate any of these funds to the United States, however, we are subject to foreign exchange risks. We do not hold or purchase any currency forward exchange contracts for trading purposes. As of December 31, 2016, a hypothetical 10% unfavorable change in foreign currency exchange rates would impact our annual operating results and cash flows by approximately \$0.2 million.

**Item 8. Financial Statements and Supplementary Data**

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\* The Financial Statements are located following page F-1.

The selected quarterly financial data required by this item is set forth in *Note 20 - Quarterly Data* of the Notes to Consolidated Financial Statements in Item 15. Exhibits and Financial Statement Schedules in Part IV of this annual report on Form 10-K



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

None.

### **Item 9A. *Controls and Procedures***

#### ***Disclosure Controls and Procedures***

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, as appropriate, to allow timely decisions regarding required disclosure. Our management, with the participation and under the supervision of our Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer/Corporate Controller, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report, and based on that evaluation, our Chief Executive Officer and Chief Financial Officer determined that our disclosure controls and procedures were effective.

#### ***Changes in Internal Control over Financial Reporting***

There have been no changes in our internal controls over financial reporting during the fourth quarter of 2016 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

#### ***Management's Report on Internal Control Over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined by Rule 13a-15(f) under the Exchange Act. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

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

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

Our management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in "*Internal Control — Integrated Framework (2013)*" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2016.

Peterson Sullivan LLP, an independent registered public accounting firm, has expressed an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2016.

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders  
Cray Inc.

We have audited Cray Inc. and Subsidiaries' ("the Company") internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of the Company as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2016, and our report dated February 10, 2017, expressed an unqualified opinion.

/S/ PETERSON SULLIVAN LLP

Seattle, Washington  
February 10, 2017

**Item 9B. *Other Information***

None.

### PART III

#### **Item 10. *Directors, Executive Officers and Corporate Governance***

The information required by this Item is contained in the proxy statement for our annual meeting of shareholders scheduled to be held on or around June 13, 2017, and such information is incorporated herein by reference.

#### **Item 11. *Executive Compensation***

The information required by this Item is contained in the proxy statement for our annual meeting of shareholders scheduled to be held on or around June 13, 2017, and such information is incorporated herein by reference.

#### **Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters***

The information required by this Item is contained in the proxy statement for our annual meeting of shareholders scheduled to be held on or around June 13, 2017, and such information is incorporated herein by reference.

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

The information required by this Item is contained in the proxy statement for our annual meeting of shareholders scheduled to be held on or around June 13, 2017, and such information is incorporated herein by reference.

#### **Item 14. *Principal Accounting Fees and Services***

The information required by this Item is contained in the proxy statement for our annual meeting of shareholders scheduled to be held on or around June 13, 2017, and such information is incorporated herein by reference.

**PART IV**

**Item 15. Exhibits and Financial Statement Schedules**

(a)(1)

*Financial Statements*

Consolidated Balance Sheets at December 31, 2016 and December 31, 2015

Consolidated Statements of Operations for the years ended December 31, 2016, 2015 and 2014

Consolidated Statements of Comprehensive Income for the years ended December 31, 2016, 2015 and 2014

Consolidated Statements of Shareholders' Equity for the years ended December 31, 2016, 2015 and 2014

Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014

Notes to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

(a)(2) *Financial Statement Schedules*

Schedule II — Valuation and Qualifying Accounts — The financial statement schedule for the years ended December 31, 2016, 2015 and 2014 should be read in conjunction with the consolidated financial statements of Cray Inc. filed as part of this annual report on Form 10-K.

Schedules other than that listed above have been omitted since they are either not required, not applicable, or because the information required is included in the consolidated financial statements or the notes thereto.

(a)(3) *Exhibits*

The Exhibits listed in the Exhibit Index, which appear immediately following the signature page and are incorporated herein by reference, are filed as part of this annual report on Form 10-K. Each management contract or compensatory plan or agreement listed on the Exhibit Index is identified by an asterisk.

**Item 16. Form 10-K Summary**

None.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Seattle, State of Washington, on February 10, 2017.

CRAY INC.

By

/s/ PETER J. UNGARO

Peter J. Ungaro

*Chief Executive Officer and President*

Each of the undersigned hereby constitutes and appoints Peter J. Ungaro, Brian C. Henry and Michael C. Piraino and each of them, the undersigned's true and lawful attorney-in-fact and agent, with full power of substitution, for the undersigned and in his or her name, place and stead, in any and all capacities, to sign any or all amendments to this Annual Report on Form 10-K and any other instruments or documents that said attorneys-in-fact and agents may deem necessary or advisable, to enable Cray Inc. to comply with the Securities Exchange Act of 1934 and any requirements of the Securities and Exchange Commission in respect thereof, and to file the same, with all exhibits thereto, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents and each of them full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that each such attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Company and in the capacities indicated on February 10, 2017.

<u>Signature</u>	<u>Title</u>
<u>By /s/ PETER J. UNGARO</u> Peter J. Ungaro	Chief Executive Officer, President and Director (Principal Executive Officer)
<u>By /s/ BRIAN C. HENRY</u> Brian C. Henry	Chief Financial Officer and Executive Vice President (Principal Financial Officer)
<u>By /s/ CHARLES D. FAIRCHILD</u> Charles D. Fairchild	Chief Accounting Officer, Controller and Vice President (Principal Accounting Officer)
<u>By /s/ PRITHVIRAJ BANERJEE</u> Prithviraj Banerjee	Director
<u>By /s/ MARTIN J. HOMLISH</u> Martin J. Homlish	Director
<u>By /s/ STEPHEN C. KIELY</u> Stephen C. Kiely	Director
<u>By /s/ SALLY G. NARODICK</u> Sally G. Narodick	Director
<u>By /s/ DANIEL C. REGIS</u> Daniel C. Regis	Director
<u>By /s/ MAX L. SCHIRESON</u> Max L. Schireson	Director
<u>By /s/ BRIAN V. TURNER</u> Brian V. Turner	Director

## EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Filing Date	Exhibit/Annex	
2.1	Asset Purchase Agreement between Intel Corporation and the Company, dated April 24, 2012	8-K	000-26820	04/25/12	2.1	
3.1	Restated Articles of Incorporation	8-K	000-26820	06/08/06	3.3	
3.2	Amended and Restated Bylaws	8-K	000-26820	02/12/07	3.1	
3.3	First Amendment to Amended and Restated Bylaws	8-K	000-26820	04/19/12	3.1	
10.0*	1999 Stock Option Plan	S-8	333-57970	03/30/01	4.1	
10.1*	2000 Non-Executive Employee Stock Option Plan	S-8	333-57970	03/30/01	4.2	
10.2*	Amended and Restated 2001 Employee Stock Purchase Plan	10-K	000-26820	03/04/11	10.28	
10.3*	2003 Stock Option Plan	DEF 14A	000-26820	03/31/03	A	
10.4*	2004 Long-Term Equity Compensation Plan	DEF 14A	000-26820	03/24/04	B	
10.5*	2006 Long-Term Equity Compensation Plan	DEF 14A	000-26820	04/28/06	B	
10.6*	2009 Long-Term Equity Compensation Plan	DEF 14A	000-26820	03/31/09	A	
10.7*	2013 Equity Incentive Plan	DEF 14A	000-26820	04/24/13	A	
10.8*	Amended and Restated 2013 Equity Incentive Plan	DEF 14A	000-26820	04/25/16	A	
10.9*	Form of Officer Non-Qualified Stock Option Agreement	10-K	000-26820	04/01/05	10.32	
10.10*	Form of Officer Incentive Stock Option Agreement	10-K	000-26820	04/01/05	10.33	
10.11*	Form of Employee Restricted Stock Agreement	10-K	000-26820	03/09/07	10.11	
10.12*	Form of Director Restricted Stock Agreement	8-K	000-26820	06/08/06	10.1	
10.13*	Form of 2013 Equity Incentive Plan Notice of Stock Option Grant and Stock Option Award Agreement	8-K	000-26820	07/03/13	99.1	
10.14*	Form of 2013 Equity Incentive Plan Notice of Restricted Stock Award and Restricted Stock Purchase Agreement	8-K	000-26820	07/03/13	99.2	
10.15*	Form of 2013 Equity Incentive Plan Notice of Restricted Stock Award and Restricted Stock Purchase Agreement	8-K	000-26820	12/17/14	10.1	
10.16*	Form of 2013 Equity Incentive Plan Notice of Stock Option Grant and Stock Option Award Agreement	8-K	000-26820	12/17/14	10.2	
10.17*	Form of 2013 Equity Incentive Plan Notice of Restricted Stock Unit Award and Restricted Stock Unit Award Agreement	8-K	000-26820	12/17/14	10.3	
10.18*	Form of 2013 Equity Incentive Plan Notice of Stock Appreciation Right Award Grant and Stock Appreciation Right Award Agreement	8-K	000-26820	12/17/14	10.4	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Filing Date	Exhibit/Annex	
10.19*	Letter Agreement between the Company and Peter J. Ungaro, dated March 4, 2005	8-K	000-26820	03/08/05	10.1	
10.20*	Offer Letter between the Company and Brian C. Henry, dated May 16, 2005	10-Q	000-26820	11/09/05	10.1	
10.21*	Offer Letter between the Company and Steve Scott, dated August 30, 2014	10-Q	000-26820	10/28/14	10.1	
10.22*	Offer Letter between the Company and Ryan W. J. Waite, dated October 27, 2014	10-Q	000-26820	05/05/15	10.1	
10.23*	Offer Letter between the Company and Margaret A. Williams, dated April 14, 2005	8-K	000-26820	05/09/05	10.1	
10.24*	Form of Management Retention Agreement entered into with executive officers prior to September 27, 2011 (including Annex A-1 and Annex A-2 applicable only to Peter J. Ungaro and Brian C. Henry)	8-K	000-26820	12/22/08	10.1	
10.25*	Form of Management Retention Agreement entered into with executive officers from September 27, 2011 forward	10-K	000-26820	02/13/14	10.20	
10.26*	Executive Severance Policy, as adopted on December 13, 2010	8-K	000-26820	12/17/10	10.1	
10.27*	Amended and Restated Non-Employee Director Compensation Policy	10-Q	000-26820	04/29/14	10.3	
10.28*	2016 Executive Bonus Plan	10-Q	000-26820	05/03/16	10.1	
10.29*	Form of Indemnification Agreement	8-K	000-26820	02/08/11	10.1	
10.30	Lease Agreement between NEA Galtier, LLC and the Company, dated as of July 2, 2009	8-K	000-26820	07/16/09	10.1	
10.31	First Amendment to Lease between NEA Galtier, LLC and the Company, dated as of October 1, 2009	10-K	000-26820	02/19/15	10.28	
10.32	Second Amendment to Lease between NEA Galtier, LLC and the Company, dated as of April 21, 2011	10-K	000-26820	02/19/15	10.29	
10.33	Third Amendment to Lease between NEA Galtier, LLC and the Company, dated as of August 31, 2011	10-K	000-26820	02/19/15	10.30	
10.34	Fourth Amendment to Lease between NEA Galtier, LLC and the Company, dated as of April 1, 2012	10-K	000-26820	02/19/15	10.31	
10.35	Fifth Amendment to Lease between NEA Galtier, LLC and the Company, dated as of March 31, 2014	10-K	000-26820	02/19/15	10.32	
10.36	Lease Agreement between North Pad Office, LLC and the Company, dated as of April 21, 2016	8-K	000-26820	04/27/16	10.10	
10.37	Intellectual Property Agreement between Intel Corporation and the Company, dated May 2, 2012	8-K	000-26820	05/03/12	10.1	
10.38	Amended and Restated Credit Agreement between Wells Fargo Bank, National Association and the Company, dated January 7, 2016	8-K	000-26820	01/11/16	10.1	



Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Filing Date	Exhibit/Annex	
10.39	Revolving Line of Credit Note between Wells Fargo Bank, National Association and the Company, dated January 7, 2016	8-K	000-26820	01/11/16	10.2	
21.1	Subsidiaries of the Company					X
23.1	Consent of Peterson Sullivan LLP, Independent Registered Public Accounting Firm					X
24.1	Power of Attorney for directors and officers (included on the signature page of this report)					X
31.1	Rule 13a-14(a)/15d-14(a) Certification of Mr. Ungaro, Chief Executive Officer					X
31.2	Rule 13a-14(a)/15d-14(a) Certification of Mr. Henry, Chief Financial Officer					X
32.1	Certification pursuant to 18 U.S.C. Section 1350 by the Chief Executive Officer and the Chief Financial Officer					X
101.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

\* Management contract or compensatory plan or arrangement.

Excluded from this list of exhibits, pursuant to Paragraph (b)(4)(iii)(a) of Item 601 of Regulation S-K, may be one or more instruments defining the rights of holders of long-term debt of the Company. The Company hereby agrees that it will, upon request of the Securities and Exchange Commission, furnish to the Commission a copy of any such instrument.

**CRAY INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**  
(In thousands, except share data)

	December 31, 2016	December 31, 2015
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents .....	\$ 222,962	\$ 266,660
Restricted cash .....	—	1,651
Short-term investments .....	—	14,925
Accounts and other receivables, net .....	197,941	124,719
Inventory .....	88,254	113,655
Deferred tax assets, net .....	19,117	38,628
Prepaid expenses and other current assets .....	20,006	21,048
Total current assets .....	548,280	581,286
Long-term restricted cash .....	1,655	1,655
Long-term investment in sales-type lease, net .....	31,050	18,317
Property and equipment, net .....	30,620	31,079
Service spares, net .....	3,023	3,090
Goodwill .....	14,182	14,182
Intangible assets other than goodwill, net .....	1,637	2,525
Deferred tax assets, net .....	66,496	26,016
Other non-current assets .....	17,629	16,025
TOTAL ASSETS .....	\$ 714,572	\$ 694,175
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable .....	\$ 45,504	\$ 27,837
Accrued payroll and related expenses .....	17,199	27,452
Other accrued liabilities .....	10,303	24,079
Deferred revenue .....	83,129	86,731
Total current liabilities .....	156,135	166,099
Long-term deferred revenue .....	27,258	33,306
Other non-current liabilities .....	5,703	2,260
TOTAL LIABILITIES .....	189,096	201,665
Commitments and contingencies (Note 12)		
Shareholders' equity:		
Preferred stock — Authorized and undesignated, 5,000,000 shares; no shares issued or outstanding .....	—	—
Common stock and additional paid-in capital, par value \$.01 per share — Authorized, 75,000,000 shares; issued and outstanding 40,757,458 and 40,693,707 shares, respectively .....	622,604	610,279
Accumulated other comprehensive income .....	2,782	7,642
Accumulated deficit .....	(99,910)	(125,411)
TOTAL SHAREHOLDERS' EQUITY .....	525,476	492,510
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY .....	\$ 714,572	\$ 694,175

*See accompanying notes*

**CRAY INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(In thousands, except per share data)

	Years Ended December 31,		
	2016	2015	2014
Revenue:			
Product .....	\$ 499,432	\$ 601,294	\$ 460,748
Service.....	130,377	123,395	100,858
Total revenue .....	<u>629,809</u>	<u>724,689</u>	<u>561,606</u>
Cost of revenue:.....			
Cost of product revenue .....	332,016	426,821	321,554
Cost of service revenue .....	77,578	72,185	55,638
Total cost of revenue.....	<u>409,594</u>	<u>499,006</u>	<u>377,192</u>
Gross profit.....	220,215	225,683	184,414
Operating expenses:.....			
Research and development, net.....	112,130	96,563	94,048
Sales and marketing .....	64,893	60,150	57,785
General and administrative.....	34,053	27,966	23,381
Total operating expenses .....	<u>211,076</u>	<u>184,679</u>	<u>175,214</u>
Income from operations.....	9,139	41,004	9,200
Other income (expense), net.....	(1,365)	365	(9)
Interest income, net.....	2,147	1,408	506
Income before income taxes .....	9,921	42,777	9,697
Income tax benefit (expense).....	694	(15,240)	52,626
Net income.....	<u>\$ 10,615</u>	<u>\$ 27,537</u>	<u>\$ 62,323</u>
Basic net income per common share .....	<u>\$ 0.27</u>	<u>\$ 0.70</u>	<u>\$ 1.61</u>
Diluted net income per common share .....	<u>\$ 0.26</u>	<u>\$ 0.68</u>	<u>\$ 1.54</u>
Basic weighted average shares outstanding.....	39,833	39,257	38,634
Diluted weighted average shares outstanding.....	<u>41,012</u>	<u>40,691</u>	<u>40,435</u>

*See accompanying notes*

**CRAY INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**  
(In thousands)

	Years Ended December 31,		
	2016	2015	2014
Net income.....	\$ 10,615	\$ 27,537	\$ 62,323
Other comprehensive income (loss), net of tax: .....			
Unrealized gain (loss) on available-for-sale investments .....	8	(20)	12
Foreign currency translation adjustments .....	426	(394)	(1,188)
Unrealized gain on cash flow hedges .....	8,030	5,251	8,475
Reclassification adjustments on cash flow hedges included in net income .....	(13,324)	(3,698)	(1,649)
Other comprehensive income (loss) .....	(4,860)	1,139	5,650
Comprehensive income .....	<u>\$ 5,755</u>	<u>\$ 28,676</u>	<u>\$ 67,973</u>

*See accompanying notes*

**CRAY INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**  
(in thousands)

	<b>Common Stock and Additional Paid In Capital</b>		<b>Accumulated Other Comprehensive Income</b>	<b>Accumulated Deficit</b>	<b>Total</b>
	<b>Number of Shares</b>	<b>Amount</b>			
BALANCE, December 31, 2013 .....	40,470	\$ 586,243	\$ 853	\$ (211,509)	\$ 375,587
Issuance of shares under employee stock purchase plan .....	21	611			611
Exercise of stock options .....	411	3,086			3,086
Restricted shares issued for compensation, net of forfeitures and taxes.....	(80)	(1,914)		(1,853)	(3,767)
Share-based compensation.....	—	10,364			10,364
Other comprehensive income .....			5,650		5,650
Net income.....				62,323	62,323
BALANCE, December 31, 2014 .....	<u>40,822</u>	<u>\$ 598,390</u>	<u>\$ 6,503</u>	<u>\$ (151,039)</u>	<u>\$ 453,854</u>
Issuance of shares under employee stock purchase plan .....	27	711			711
Exercise of stock options .....	229	2,289			2,289
Restricted shares issued for compensation, net of forfeitures and taxes.....	(384)	(2,464)		(1,909)	(4,373)
Share-based compensation.....	—	11,353			11,353
Other comprehensive income .....			1,139		1,139
Net income.....				27,537	27,537
BALANCE, December 31, 2015 .....	<u>40,694</u>	<u>\$ 610,279</u>	<u>\$ 7,642</u>	<u>\$ (125,411)</u>	<u>\$ 492,510</u>
Issuance of shares under employee stock purchase plan .....	27	718			718
Exercise of stock options .....	169	2,121			2,121
Restricted shares issued for compensation, net of forfeitures and taxes.....	(133)	(1,665)		(1,714)	(3,379)
Share-based compensation.....	—	11,151			11,151
Other comprehensive loss.....			(4,860)		(4,860)
Cumulative-effect adjustment resulting from adoption of ASU 2016-09 .....				16,600	16,600
Net income.....				10,615	10,615
BALANCE, December 31, 2016 .....	<u>40,757</u>	<u>\$ 622,604</u>	<u>\$ 2,782</u>	<u>\$ (99,910)</u>	<u>\$ 525,476</u>

*See accompanying notes*

**CRAY INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(In thousands)

	Years Ended December 31,		
	2016	2015	2014
<b>Operating activities:</b>			
Net income.....	\$ 10,615	\$ 27,537	\$ 62,323
<b>Adjustments to reconcile net income to net cash provided by (used in) operating activities:</b>			
Depreciation and amortization .....	14,684	17,017	16,324
Share-based compensation expense .....	11,151	11,353	10,364
Deferred income taxes.....	(1,861)	12,103	(53,204)
Other.....	2,850	1,945	4,159
<b>Cash provided (used) due to changes in operating assets and liabilities:</b>			
Accounts and other receivables .....	(78,396)	36,665	17,450
Long-term investment in sales-type lease, net.....	(17,224)	11,510	(32,889)
Inventory .....	15,343	21,292	(54,147)
Prepaid expenses and other assets .....	2,265	(3,972)	(9,349)
Accounts payable.....	16,903	(19,849)	14,504
Accrued payroll and related expenses and other accrued liabilities .....	(21,073)	23,841	(5,237)
Deferred revenue .....	(7,570)	8,314	(28,407)
Net cash provided by (used in) operating activities.....	(52,313)	147,756	(58,109)
<b>Investing activities:</b>			
Sales and maturities of available-for-sale investments.....	30,990	16,229	53,608
Purchases of available-for-sale investments.....	(16,159)	(14,991)	(56,064)
Decrease (increase) in restricted cash.....	1,670	13,445	(3,106)
Purchases of property and equipment.....	(7,503)	(7,467)	(17,193)
Net cash provided by (used in) investing activities .....	8,998	7,216	(22,755)
<b>Financing activities:</b>			
Proceeds from issuance of common stock through employee stock purchase plan.....	718	711	611
Purchase of employee restricted shares to fund related statutory tax withholding .....	(3,379)	(4,373)	(3,767)
Proceeds from exercise of options.....	2,121	2,289	3,086
Net cash used in financing activities.....	(540)	(1,373)	(70)
Effect of foreign exchange rate changes on cash and cash equivalents .....	157	428	934
Net increase (decrease) in cash and cash equivalents .....	(43,698)	154,027	(80,000)
<b>Cash and cash equivalents:</b>			
Beginning of period.....	266,660	112,633	192,633
End of period.....	\$ 222,962	\$ 266,660	\$ 112,633
<b>Supplemental disclosure of cash flow information:</b>			
Cash paid for interest.....	\$ 31	\$ 4	\$ 5
Cash paid for income taxes .....	2,441	3,890	2,935
<b>Non-cash investing and financing activities:</b>			
Inventory transfers to property and equipment and service spares.....	\$ 5,292	\$ 8,177	\$ 3,313

*See accompanying notes*

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**NOTE 1 DESCRIPTION OF BUSINESS**

Cray Inc., or Cray, or the Company, designs, develops, manufactures, markets and services the high-end of the high performance computing, or HPC, market, primarily categories of systems commonly known as supercomputers, and provides data analytics, artificial intelligence and storage solutions. The Company also provides software, system maintenance and support services and engineering services related to supercomputer systems and data analytics, artificial intelligence and storage solutions. Cray's supercomputer systems address challenging scientific, engineering, commercial and national security computing problems. The Company's customers include foreign and domestic governments and government-funded entities, academic institutions and commercial entities.

**NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Accounting Principles*

The consolidated financial statements and accompanying notes are prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP.

*Principles of Consolidation*

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All material intercompany balances and transactions have been eliminated.

*Reclassifications*

Certain prior year amounts have been reclassified to conform with the current year presentation. There has been no impact on previously reported net income or shareholders' equity from such reclassifications.

*Use of Estimates*

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the amounts reported in the Company's consolidated financial statements and accompanying notes. Actual results could differ materially from those estimates.

*Cash, Cash Equivalents and Restricted Cash*

Cash and cash equivalents consist of highly liquid financial instruments that are readily convertible to cash and have maturities of three months or less at the time of acquisition. The Company maintains cash and cash equivalent balances with financial institutions that exceed federally insured limits. As of December 31, 2015, the Company had \$1.7 million in short-term restricted cash. As of December 31, 2016 and 2015, the Company had \$1.7 million in long-term restricted cash. The restricted cash is associated with certain letters of credit outstanding to secure customer prepayments.

*Investments*

The Company's investments consist primarily of commercial paper, corporate debt, and other debt securities. Debt securities are classified as available-for-sale and are reported at fair value with unrealized gains and losses, net of applicable taxes, recorded in accumulated other comprehensive income, a component of shareholders' equity. The realized gains and losses for available-for-sale securities are included in other income and expense in the Consolidated Statements of Operations. Realized gains and losses are calculated based on the specific identification method.

The Company monitors its investment portfolio for impairment on a periodic basis. When the carrying value of an investment in debt securities exceeds its fair value and the decline in value is determined to be an other-than-temporary decline, and when the Company does not intend to sell the debt security and it is not more likely than not that the Company will be required to sell the debt securities prior to recovery of its amortized cost basis, the Company records an impairment charge in the amount of the credit loss and the balance, if any, to other comprehensive income (loss).

Investments that mature between three months and one year from the purchase date are initially classified as short-term investments in the Consolidated Balance Sheet. Investments that mature beyond one year from the purchase date are initially classified as long-term investments in the Consolidated Balance Sheet.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

*Foreign Currency Derivatives*

The Company uses foreign currency exchange contracts to hedge certain foreign currency exposures. Foreign currency exchange contracts are cash flow hedges of the Company's foreign currency exposures on certain revenue contracts and are recorded at the contract's fair value. Most of the Company's foreign currency exchange contracts are designated as cash flow hedges for the purposes of hedge accounting treatment and any gains or losses on the effective portion of the foreign currency exchange contract is initially reported in "Accumulated other comprehensive income," a component of shareholders' equity, with a corresponding asset or liability recorded based on the fair value of the foreign currency exchange contract. When the hedged transaction is recognized, any unrecognized gains or losses on the hedged transaction are reclassified into results of operations in the same period. Any hedge ineffectiveness is recorded to operations in the current period. The Company measures hedge effectiveness by comparing changes in fair values of the foreign currency exchange contract and expected cash flows based on changes in the spot prices of the underlying currencies. Cash flows from foreign currency exchange contracts accounted for as cash flow hedges are classified in the same category as the cash flows from the items being hedged. Unrealized gains or losses related to foreign currency exchange contracts that are not designated as cash flow hedges for the purposes of hedge accounting treatment are recorded in other income (expense) in the Consolidated Statements of Operations and are generally offset by foreign currency adjustments on related receivables. The Company does not use derivative financial instruments for speculative purposes.

*Concentration of Credit Risk*

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents, available-for-sale investments, accounts receivable, short-term and long-term restricted cash and foreign currency exchange contracts.

The Company maintains cash and cash equivalents, available-for-sale securities and foreign currency exchange contracts with various financial institutions. As part of its risk management process, the Company performs periodic evaluations of the relative credit standing of the financial institutions. The Company has not sustained any credit losses from instruments held at financial institutions. The Company utilizes foreign currency exchange contracts to protect against the effects of foreign currency fluctuations. Such contracts involve the risk of non-performance by the counterparty, which could result in a material loss.

The Company currently derives a significant portion of its revenue from sales of products and services to the U.S. Government. See *Note 17 — Segment Information* for additional information. Given the type of customers, the Company does not believe its accounts receivable represent significant credit risk.

The Company currently has a long-term investment in a sales-type lease it entered into with one of its customers. See *Note 7 — Sales-type Lease* for additional information. Given the credit standing of the customer, the Company does not believe that this investment represents a significant credit risk.

*Other Concentration*

The Company obtains certain components from single-source suppliers due to technology, availability, price, quality or other considerations. The loss of a single-source supplier, the single-source supplier's inability to deliver the required components or intellectual property due to natural disaster or other reasons, the deterioration of the relationship with a single-source supplier, or any unilateral modification of contract terms under which the Company is supplied components by a single-source supplier could have a significant adverse effect on the Company's revenue and gross margins.

*Accounts Receivable*

Accounts receivable are stated at principal amounts and are primarily comprised of amounts contractually due from customers for products and services and amounts due from government research and development contracts. The Company provides an allowance for doubtful accounts based on an evaluation of customer past due account balances. In determining whether to record an allowance for a specific customer, the Company considers a number of factors, including prior payment history and financial information for the customer.

*Fair Values of Financial Instruments*

The Company measures certain financial assets and liabilities at fair value based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The Company's financial instruments primarily consist of debt securities, time



**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

deposits, money market funds, and foreign currency derivatives. See *Note 3 — Fair Value Measurement* for a further discussion on fair value of financial instruments.

*Inventories*

Inventories are valued at the lower of cost or market, with cost computed on a first-in, first-out basis (FIFO). The Company regularly evaluates the technological usefulness and anticipated future demand for various inventory components and the expected use of the inventory. When the Company determines it is not likely the cost of inventory items will be recovered through future sales, the Company writes-down the related inventory to its estimated market value.

In connection with certain of its sales agreements, the Company may receive used equipment from a customer. This inventory generally will be recorded at no value based on the expectation that the Company will not be able to resell or otherwise use the equipment. In the event that the Company has a specific contractual plan for resale at the date the inventory is acquired, the inventory is recorded at its estimated fair value.

*Property and Equipment and Intangible Assets, Net*

Property and equipment are recorded at cost less accumulated depreciation and amortization. Additions and improvements are capitalized and maintenance and repairs are expensed as incurred. Depreciation is calculated on a straight-line basis over the estimated useful lives of the related assets, ranging from eighteen months to seven years for furniture and fixtures, three years for computer equipment, and eight to twenty-five years for buildings and land improvements. Leasehold improvements are depreciated over the life of the lease or asset, whichever is shorter.

The Company amortizes purchased intangible assets with finite lives using the straight-line method over the estimated economic lives of the assets, ranging from two to ten years.

*Service Spares*

Service spares are valued at the lower of cost or market and represent inventory used to support service and maintenance agreements with customers. As inventory is utilized, replaced items are returned to the Company and are either repaired or scrapped. Costs incurred to repair inventory to a usable state are charged to expense as incurred. Service spares are recorded at cost and amortized over the estimated service life of the related product platform (generally four years).

*Impairment of Long-Lived Assets and Intangibles*

The Company evaluates property, plant and equipment and intangible assets with finite lives for impairment whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. The Company assesses the recoverability of the assets based on the undiscounted future cash flow the assets are expected to generate and recognizes an impairment loss when estimated undiscounted future cash flow expected to result from the use of the asset plus net proceeds expected from disposition of the asset, if any, are less than the carrying value of the asset. When the Company identifies an impairment, the carrying value of the asset is reduced to its estimated fair value based on a discounted cash flow approach or, when available and appropriate, to comparable market values.

*Goodwill*

Goodwill is not amortized but is tested for impairment at least annually. The Company reviews goodwill for impairment annually at the beginning of its fourth fiscal quarter and whenever events or changes in circumstances indicate the carrying value of the asset may not be recoverable. The goodwill impairment test consists of a two-step process, if necessary. However, the Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test described in ASC Topic 350. The more likely than not threshold is defined as having a likelihood of more than 50 percent. If, after assessing the totality of events or circumstances, the Company determines that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary and goodwill is considered to be unimpaired. However, if based on the qualitative assessment the Company concludes that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, the Company will proceed with performing the two-step process.

In step one, the Company determines the fair value of each reporting unit and compares it to its carrying value. If the fair value of the reporting unit exceeds the carrying value of the net assets assigned to that unit, goodwill is not impaired and no further testing is performed. If the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, then the

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

Company must perform the second step of the impairment test in order to determine the implied fair value of the reporting unit's goodwill. If the carrying value of a reporting unit's goodwill exceeds its implied fair value, the Company records an impairment loss equal to the difference.

The Company performed its qualitative assessment during the fourth fiscal quarter of 2016 and concluded that it was more likely than not that the fair values of its reporting units were greater than their carrying amounts. After reaching this conclusion, the two-step impairment test was unnecessary and no further testing was performed. The qualitative factors that were considered included, but were not limited to, general economic conditions, outlook for the HPC and big data markets, recent and forecasted financial performance and the price of the Company's common stock.

*Business Combinations*

The Company accounts for business combinations using the acquisition method of accounting and allocates the purchase price to the tangible and intangible assets acquired and the liabilities assumed based upon their estimated fair values at the acquisition date. The difference between the purchase price and the fair value of the net assets acquired is recorded as goodwill. The Company uses estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date. During the measurement period, which may be up to one year from the acquisition date, any refinements made to the fair value of the assets and liabilities assumed are recorded with retrospective effect.

The fair values of intangible assets acquired are estimated using a discounted cash flow approach with Level 3 inputs. Under this method, an intangible asset's fair value is equal to the present value of the incremental after-tax cash flows (excess earnings) attributable solely to the intangible asset over its remaining useful life. To calculate fair value, the Company uses risk-adjusted cash flows discounted at rates considered appropriate given the inherent risks associated with each type of asset. The Company believes the level and timing of cash flows appropriately reflects market participant assumptions.

*Revenue Recognition*

The Company recognizes revenue, including transactions under sales-type leases, when it is realized or realizable and earned. The Company considers revenue realized or realizable and earned when it has persuasive evidence of an arrangement, delivery has occurred, the sales price is fixed or determinable, and collectibility is reasonably assured. Delivery does not occur until the products have been shipped or services provided to the customer, risk of loss has transferred to the customer, and, where applicable, a customer acceptance has been obtained. The sales price is not considered to be fixed or determinable until all material contingencies related to the sales have been resolved. The Company records revenue in the Consolidated Statements of Operations net of any sales, use, value added or certain excise taxes imposed by governmental authorities on specific sales transactions. In addition to the aforementioned general policy, the following are the Company's statements of policy with regard to multiple-element arrangements and specific revenue recognition policies for each major category of revenue.

*Multiple-Element Arrangements.* The Company commonly enters into revenue arrangements that include multiple deliverables of its product and service offerings due to the needs of its customers. Products may be delivered in phases over time periods which can be as long as five years. Maintenance services generally begin upon acceptance of the first equipment delivery and future deliveries of equipment generally have an associated maintenance period. The Company considers the maintenance period to commence upon acceptance of the product or installation in situations where a formal acceptance is not required, which may include a warranty period and accordingly allocates a portion of the arrangement consideration as a separate deliverable which is recognized as service revenue over the entire service period. Other services such as training and engineering services can be delivered as a discrete delivery or over the term of the contract. A multiple-element arrangement is separated into more than one unit of accounting if the following criteria are met:

- The delivered item(s) has value to the customer on a standalone basis; and
- If the arrangement includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in the control of the Company.

If these criteria are met for each element, the arrangement consideration is allocated to the separate units of accounting based on each unit's relative selling price. If these criteria are not met, the arrangement is accounted for as one unit of accounting which would result in revenue being recognized ratably over the contract term or being deferred until the earlier of when such criteria are met or when the last undelivered element is delivered.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

The Company follows a selling price hierarchy in determining the best estimate of the selling price of each deliverable. Certain products and services are sold separately in standalone arrangements for which the Company is sometimes able to determine vendor specific objective evidence, or VSOE. The Company determines VSOE based on normal pricing and discounting practices for the product or service when sold separately.

When the Company is not able to establish VSOE for all deliverables in an arrangement with multiple elements, the Company attempts to establish the selling price of each remaining element based on third-party evidence, or TPE. The Company's inability to establish VSOE is often due to a relatively small sample of customer contracts that differ in system size and contract terms which can be due to infrequently selling each element separately, not pricing products within a narrow range, or only having a limited sales history, such as in the case of certain advanced and emerging technologies. TPE is determined based on the Company's prices or competitor prices for similar deliverables when sold separately. However, the Company is often unable to determine TPE, as the Company's offerings usually contain a significant level of customization and differentiation from those of competitors and the Company is often unable to reliably determine what similar competitor products' selling prices are on a standalone basis.

When the Company is unable to establish selling price using VSOE or TPE, the Company uses estimated selling price, or ESP, in its allocation of arrangement consideration. The objective of ESP is to determine the price at which the Company would transact a sale if the product or service were sold on a standalone basis. In determining ESP, the Company uses the cost to provide the product or service plus a margin, or considers other factors. When using cost plus a margin, the Company considers the total cost of the product or service, including customer-specific and geographic factors. The Company also considers the historical margins of the product or service on previous contracts and several factors including any changes to pricing methodologies, competitiveness of products and services and cost drivers that would cause future margins to differ from historical margins.

*Products.* The Company most often recognizes revenue from sales of products upon customer acceptance of the system. Where formal acceptance is not required, the Company recognizes revenue upon delivery or installation. When the product is part of a multiple element arrangement, the Company allocates a portion of the arrangement consideration to product revenue based on estimates of selling price.

*Services.* Maintenance services are provided under separate maintenance contracts with customers. These contracts generally provide for maintenance services for one year, although some are for multi-year periods, often with prepayments for the term of the contract. The Company considers the maintenance period to commence upon acceptance of the product, or installation of the product where a formal acceptance is not required, which may include a warranty period. When service is part of a multiple element arrangement, the Company allocates a portion of the arrangement consideration to maintenance service revenue based on estimates of selling price. Maintenance contracts that are billed in advance of revenue recognition are recorded as deferred revenue. Maintenance revenue is recognized ratably over the term of the maintenance contract.

Revenue from engineering services is recognized as services are performed.

*Project Revenue.* Revenue from design and build contracts is recognized under the percentage-of-completion, or POC, method. Under the POC method, revenue is recognized based on the costs incurred to date as a percentage of the total estimated costs to fulfill the contract. If circumstances arise that change the original estimates of revenues, costs, or extent of progress toward completion, revisions to the estimates are made. These revisions may result in increases or decreases in estimated revenues or costs, and such revisions are recorded in income in the period in which the circumstances that gave rise to the revision become known by management. The Company performs ongoing profitability analyses of its contracts accounted for under the POC method in order to determine whether the latest estimates of revenue, costs and extent of progress require updating. If at any time these estimates indicate that the contract will be unprofitable, the entire estimated loss for the remainder of the contract is recorded immediately.

The Company records revenue from certain research and development contracts which include milestones using the milestone method if the milestones are determined to be substantive. A milestone is considered to be substantive if management believes there is substantive uncertainty that it will be achieved and the milestone consideration meets all of the following criteria:

- It is commensurate with either of the following:
  - The Company's performance to achieve the milestone; or
  - The enhancement of value of the delivered item or items as a result of a specific outcome resulting from the Company's performance to achieve the milestone.
- It relates solely to past performance.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

- It is reasonable relative to all of the deliverables and payment terms (including other potential milestone consideration) within the arrangement.

The individual milestones are determined to be substantive or non-substantive in their entirety and milestone consideration is not bifurcated.

Revenue from projects is classified as Product Revenue or Service Revenue, based on the nature of the work performed.

*Nonmonetary Transactions.* The Company values and records nonmonetary transactions at the fair value of the asset surrendered unless the fair value of the asset received is more clearly evident, in which case the fair value of the asset received is used.

*Sales-type leases*

When the Company leases a system to a customer, the accounting involves specific determinations, which often involve complex provisions and significant judgments. The four criteria of the accounting standard that the Company uses in the determination of whether a lease is a sales-type lease or an operating lease are: (a) a review of the lease term to determine if it is equal to or greater than 75% of the economic life of the system; (b) a review of the minimum lease payments to determine if they are equal to or greater than 90% of the fair value of the system; (c) a determination of whether or not the lease transfers ownership to the lessee at the end of the lease term; and (d) a determination of whether or not the lease contains a bargain purchase option. If the lease transaction meets one of the four criteria, then it is recorded as a sales-type lease; otherwise it is an operating lease. Additionally, the Company assesses whether collectibility of the lease payments is reasonably assured and whether there are any significant uncertainties related to costs that it has yet to incur with respect to the lease.

The Company considers the economic lives of most of its products to range from three to four years. There is no significant after-market for the Company's used products and the Company believes that the economic lives are representative of the periods during which its products are expected to be economically usable, with normal service, for the purposes for which they were intended. Residual values are not significant.

The discount rate implicit in the sales-type lease is used to calculate the present value of minimum lease payments, which the Company records as a lease receivable. The minimum lease payment consists of the gross lease payments net of executory costs and contingencies, if any. While revenue is recognized at inception of the lease, the cash flow from the sales-type lease occurs over the course of the lease, which results in interest income. Unearned interest income is recorded at inception of the lease and amortized over the lease term using the effective interest method.

*Foreign Currency Translation*

The Company uses the U.S. dollar predominantly as its functional currency. Assets and liabilities of foreign subsidiaries that have a functional currency denominated in non-U.S. dollars are translated into U.S. dollars at year-end exchange rates, and revenue and expenses of these foreign subsidiaries are translated at average rates prevailing during the year. Translation adjustments are included in "Accumulated other comprehensive income," a separate component of shareholders' equity. Transaction gains and losses arising from transactions denominated in a currency other than the functional currency of the entity involved are included in "Other income (expense), net" in the accompanying Consolidated Statements of Operations. Net transaction losses were \$1.0 million for 2016 and net transaction gains were \$1.6 million and \$2.1 million for 2015 and 2014, respectively.

*Research and Development*

Research and development expenses include costs incurred in the development and production of hardware and software, costs incurred to enhance and support existing product features, costs incurred to support and improve development processes, and costs related to future product development. Research and development costs are expensed as incurred, and may be offset by co-funding from third parties. The Company may also enter into arrangements whereby it makes advance, non-refundable payments to a vendor to perform certain research and development services. These payments are deferred and recognized over the vendor's estimated performance period.

Amounts to be received under co-funding arrangements with the U.S. government or others are based on either contractual milestones or costs incurred. These co-funding milestone payments are recognized in operations as performance is estimated to be completed and are measured as milestone achievements occur or as costs are incurred. These estimates are reviewed on a periodic

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

basis and are subject to change, including in the near term. If an estimate is changed, net research and development expense could be impacted significantly.

The Company does not record a receivable from the U.S. government prior to completing the requirements necessary to bill for a milestone or cost reimbursement. Funding from the U.S. government is subject to certain budget restrictions and milestones may be subject to completion risk, and as a result, there may be periods in which research and development costs are expensed as incurred for which no reimbursement is recorded, as milestones have not been completed or the U.S. government has not funded an agreement. Accordingly, there can be substantial variability in the amount of net research and development expenses from quarter to quarter and year to year.

The Company classifies amounts to be received from funded research and development projects as either revenue or a reduction to research and development expense based on the specific facts and circumstances of the contractual arrangement, considering total costs expected to be incurred compared to total expected funding and the nature of the research and development contractual arrangement. In the event that a particular arrangement is determined to represent revenue, the corresponding research and development costs are classified as cost of revenue.

*Income Taxes*

Deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and operating loss and tax credit carryforwards and are measured using the enacted tax rates and laws that will be in effect when the differences and carryforwards are expected to be recovered or settled. A valuation allowance for deferred tax assets is provided when the Company estimates that it is more likely than not that all or a portion of the deferred tax assets may not be realized through future operations. This assessment is based upon consideration of available positive and negative evidence, which includes, among other things, recent results of operations and expected future profitability. The Company considers its actual historical results over several years to have stronger weight than other more subjective indicators, including forecasts, when considering whether to establish or reduce a valuation allowance on deferred tax assets. The Company has significant difficulty projecting future results due to the nature of the business and the industry in which it operates.

The Company's deferred tax assets increased by \$16.6 million as a result of the adoption of Accounting Standards Update No. 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, or ASU 2016-09. No changes were required to previously recorded valuation allowances at the time of adoption. ASU 2016-09 will result in increased volatility in the Company's effective tax rate.

As of December 31, 2016, the Company had approximately \$94.3 million of net deferred tax assets before application of a valuation allowance. As of December 31, 2016, net deferred tax assets after reduction by the valuation allowance of \$8.7 million were \$85.6 million. During the year ended December 31, 2014, the Company reduced substantially all of the remaining valuation allowance held against the Company's U.S. deferred tax assets. The assessment of the Company's ability to utilize its deferred tax assets included an assessment of all known business risks and industry trends as well as forecasted domestic and international earnings over a number of years. The Company's ability to forecast results significantly into the future is limited due to the rapid rate of technological and competitive change in the industry in which it operates.

The Company continues to provide a valuation allowance against specific U.S. deferred tax assets and a valuation allowance against deferred tax assets arising in a limited number of foreign jurisdictions as the realization of such assets is not considered to be more likely than not at this time. In a future period, the Company's assessment of the realizability of its deferred tax assets and therefore the appropriateness of the valuation allowance could change based on an assessment of all available evidence, both positive and negative in that future period. If the Company's conclusion about the realizability of its deferred tax assets and therefore the appropriateness of the valuation allowance changes in a future period, the Company could record a substantial tax provision or benefit in its Consolidated Statements of Operations when that occurs. The Company recognizes the income tax benefit from a tax position only if it is more likely than not that the tax position will be sustained on examination by the applicable taxing authorities, based on the technical merits of the Company's position. The tax benefit recognized in the financial statements from such a position is measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement.

Estimated interest and penalties are recorded as a component of interest expense and other expense, respectively.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

*Share-Based Compensation*

The Company measures compensation cost for share-based payment awards at fair value and recognizes it as compensation expense over the service period for awards expected to vest. Share-based compensation expense is recognized for all share-based payment awards, net of an estimated forfeiture rate. Compensation cost is only recognized for those shares expected to vest on a straight-line basis over the requisite service period of the award.

Determining the appropriate fair value model and calculating the fair value of share-based payment awards requires subjective assumptions, including the expected life of the share-based payment awards and stock price volatility. The Company utilizes the Black-Scholes options pricing model to value the stock options granted under its options plans. In this model, the assumptions utilized relate to stock price volatility, stock option term and forfeiture rates that are based upon both historical factors as well as management's judgment.

The fair value of restricted stock and restricted stock units is determined based on the number of shares or units granted and the quoted price of the Company's common stock at the date of grant.

The Company grants performance vesting restricted stock and performance vesting restricted stock units to executives as one of the ways to align compensation with shareholder interests. Vesting of these awards is contingent upon achievement of certain performance conditions. Compensation expense for these awards is only recorded when vesting is deemed to be "probable."

Awards are evaluated for probability of vesting each reporting period.

*Shipping and Handling Costs*

Costs related to shipping and handling are included in "Cost of product revenue" and "Cost of service revenue" in the accompanying Consolidated Statements of Operations.

*Advertising Costs*

Sales and marketing expenses in the accompanying Consolidated Statements of Operations included advertising expenses of \$3.2 million, \$2.3 million, and \$2.9 million in 2016, 2015, and 2014, respectively. The Company incurs advertising costs for representation at certain trade shows, promotional events and sales lead generation, as well as design and printing costs for promotional materials. The Company expenses all advertising costs as incurred.

*Earnings Per Share, or EPS*

Basic EPS is computed by dividing net income available to common shareholders by the weighted average number of common shares, excluding unvested restricted stock outstanding during the period. Diluted EPS is computed by dividing net income available to common shareholders by the weighted average number of common and potential common shares outstanding during the period, which includes the additional dilution related to conversion of stock options, unvested restricted stock and unvested restricted stock units as computed under the treasury stock method.

For the years ended December 31, 2016, 2015 and 2014, the added shares from these items included in the calculation of diluted shares and EPS totaled approximately 1.2 million, 1.4 million, and 1.8 million, respectively. Potentially dilutive shares of 1.2 million, 0.9 million, and 0.6 million, respectively, have been excluded from the denominator in the computation of diluted EPS for the years ended December 31, 2016, 2015 and 2014, respectively, because they were antidilutive. An additional 1.2 million, 1.2 million and 0.8 million performance vesting restricted stock and performance vesting restricted stock units were excluded from the computation of diluted EPS for the years ended December 31, 2016, 2015 and 2014, respectively, because the conditions for vesting had not been met as of the balance sheet date.

*Accumulated Other Comprehensive Income*

Accumulated other comprehensive income, a component of Shareholders' equity, consisted of the following at December 31 (in thousands):

	2016	2015
Accumulated unrealized net loss on available-for-sale investments	\$ —	\$ (8)
Accumulated currency translation adjustments	2,101	1,675
Accumulated unrealized net gain on cash flow hedges	681	5,975
Accumulated other comprehensive income	<u>\$ 2,782</u>	<u>\$ 7,642</u>

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

*Recent Accounting Pronouncements*

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers: Topic 606, or ASU 2014-09, to supersede nearly all existing revenue recognition guidance under GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. ASU 2014-09 defines a five step process to achieve this core principle and, in doing so, it is possible more judgment and estimates may be required within the revenue recognition process than required under existing GAAP, including identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. Adoption of ASU 2014-09 was initially required for fiscal and interim reporting periods beginning after December 15, 2016 using either of two methods: (i) retrospective to each prior reporting period presented with the option to elect certain practical expedients as defined within ASU 2014-09; or (ii) retrospective with the cumulative effect of initially applying ASU 2014-09 recognized at the date of initial application and providing certain additional disclosures as defined per ASU 2014-09.

In August 2015, FASB issued Accounting Standards Update No. 2015-14, Revenue from Contracts with Customers - Deferral of the Effective Date: Topic 606, or ASU 2015-14, that deferred the effective date of ASU 2014-09 by one year. Application of the new revenue standard is permitted for fiscal and interim reporting periods beginning after December 15, 2016 and required for fiscal and interim reporting periods beginning after December 15, 2017. The Company is currently evaluating the impact of the adoption of ASU 2014-09. The Company will be required to make additional disclosures under the new guidance. However, at this time, the Company does not expect adoption of ASU 2014-09 to have a material impact on its consolidated financial statements.

In July 2015, FASB issued Accounting Standards Update No. 2015-11, Simplifying the Measurement of Inventory: Topic 330, or ASU 2015-11. Topic 330 currently requires an entity to measure inventory at the lower of cost or market. Market could be replacement cost, net realizable value, or net realizable value less an approximately normal profit margin. ASU 2015-11 requires that inventory measured using either the first-in-first-out (FIFO) or average cost method be measured at the lower of cost and net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The Company will adopt ASU 2015-11 as required in its 2017 interim and annual reporting periods. The Company does not expect the adoption of ASU 2015-11 to have a material impact on its consolidated financial statements.

In November 2015, FASB issued Accounting Standards Update No. 2015-17, Balance Sheet Classification of Deferred Taxes: Topic 740, or ASU 2015-17. Current GAAP requires the deferred taxes for each jurisdiction to be presented as a net current asset or liability and net noncurrent asset or liability. This requires a jurisdiction-by-jurisdiction analysis based on the classification of the assets and liabilities to which the underlying temporary differences relate, or, in the case of loss or credit carryforwards, based on the period in which the attribute is expected to be realized. Any valuation allowance is then required to be allocated on a pro rata basis, by jurisdiction, between current and noncurrent deferred tax assets. The new guidance requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. As a result, each jurisdiction will now only have one net noncurrent deferred tax asset or liability. The guidance does not change the existing requirement that only permits offsetting within a jurisdiction. Adoption of ASU 2015-17 is required for fiscal reporting periods beginning after December 15, 2016, including interim reporting periods within those fiscal years, and either prospective or retrospective application is permitted. Early adoption of ASU 2015-17 is permitted. At the time of adoption, all of the Company's deferred tax assets and liabilities, along with any related valuation allowance, will be classified as noncurrent on its Consolidated Balance Sheet. The Company will adopt ASU 2015-17 in its 2017 interim and annual reporting periods.

In January 2016, FASB issued Accounting Standards Update No. 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities: Topic 825, or ASU 2016-01. The updated guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. Adoption of ASU 2016-01 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years. The Company does not expect the adoption of ASU 2016-01 to have a material impact on its consolidated financial statements.

In February 2016, FASB issued Accounting Standards Update No. 2016-02, Leases: Topic 842, or ASU 2016-02, that replaces existing lease guidance. The new standard is intended to provide enhanced transparency and comparability by requiring lessees to record right-of-use assets and corresponding lease liabilities on the balance sheet. Under the new guidance, leases will continue to be

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

classified as either finance or operating, with classification affecting the pattern of expense recognition in the Consolidated Statements of Operations. Lessor accounting is largely unchanged under ASU 2016-02. Adoption of ASU 2016-02 is required for fiscal reporting periods beginning after December 15, 2018, including interim reporting periods within those fiscal years with early adoption being permitted. The new standard is required to be applied with a modified retrospective approach to each prior reporting period presented with various optional practical expedients. The Company is currently evaluating the potential impact of the pending adoption of ASU 2016-02 on its consolidated financial statements.

In March 2016, FASB issued Accounting Standards Update No. 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, or ASU 2016-09. The updated guidance simplifies and changes how companies account for certain aspects of share-based payment awards to employees, including accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification of certain items in the statement of cash flows. Adoption of ASU 2016-09 is required for fiscal reporting periods beginning after December 15, 2016, including interim reporting periods within those fiscal years with early adoption being permitted. The Company early-adopted ASU 2016-09 in the first quarter of 2016.

At the time of adoption of ASU 2016-09, the Company recognized \$16.6 million in deferred tax assets for all excess tax benefits that had not been previously recognized because the related tax deduction had not reduced taxes payable. This was accomplished through a cumulative-effect adjustment to accumulated deficit. All excess tax benefits and all tax deficiencies generated in the current and future periods will be recorded as income tax benefit or expense in the Company's Consolidated Statements of Operations in the reporting period in which they occur. This will result in increased volatility in the Company's effective tax rate. The Company has determined that none of the other provisions of ASU 2016-09 will have a significant impact on its consolidated financial statements.

In August 2016, FASB issued Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments, or ASU 2016-15. The updated guidance clarifies how companies present and classify certain cash receipts and cash payments in the statement of cash flows. Adoption of ASU 2016-15 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years with early adoption being permitted. The Company does not expect the adoption of ASU 2016-15 to have a material impact on its consolidated financial statements.

In November 2016, FASB issued Accounting Standards Update No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, or ASU 2016-18, which amends ASC 230 to add or clarify guidance on the classification and presentation of restricted cash in the statement of cash flows. The amended guidance requires that amounts that are deemed to be restricted cash and restricted cash equivalents be included in the cash and cash-equivalent balances in the statement of cash flows. A reconciliation between the statement of financial position and the statement of cash flows must be disclosed when the statement of financial position includes more than one line item for cash, cash equivalents, restricted cash, and restricted cash equivalents. The guidance also requires that changes in restricted cash and restricted cash equivalents that result from transfers between cash, cash equivalents, and restricted cash and restricted cash equivalents should not be presented as cash flow activities in the statement of cash flows. An entity with a material balance of amounts generally described as restricted cash and restricted cash equivalents must disclose information about the nature of the restrictions. Adoption of ASU 2016-18 is required for fiscal reporting periods beginning after December 15, 2017, including interim reporting periods within those fiscal years with early adoption being permitted. The Company does not expect the adoption of ASU 2016-18 to have a material impact on its consolidated financial statements.

In January 2017, FASB issued Accounting Standards Update No. 2017-04, Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment, or ASU 2017-04, which eliminates Step 2 from the goodwill impairment test. ASU 2017-04 also eliminates the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. Adoption of ASU 2017-04 is required for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019 with early adoption being permitted for annual or interim goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of ASU 2017-04 to have a material impact on its consolidated financial statements.



**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

**NOTE 3 FAIR VALUE MEASUREMENTS**

Under FASB Accounting Standards Codification Topic 820, *Fair Value Measurements and Disclosures*, based on the observability of the inputs used in the valuation techniques used to determine the fair value of certain financial assets and liabilities, the Company is required to provide the following information according to the fair value hierarchy. The fair value hierarchy ranks the quality and reliability of the information used to determine fair values.

In general, fair values determined by Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities. Fair values determined by Level 3 inputs are unobservable data points for the asset or liability, and include situations where there is little, if any, market activity for the asset or liability. The following table presents information about the Company's financial assets and liabilities that have been measured at fair value on a recurring basis as of December 31, 2016 and 2015, and indicates the fair value hierarchy of the valuation inputs utilized to determine such fair value (in thousands):

Description	Fair Value as of December 31, 2016	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)
<b>Assets:</b>			
Cash and cash equivalents and restricted cash.....	\$ 224,617	\$ 224,617	\$ —
Foreign currency exchange contracts (1).....	11,250	—	11,250
Assets measured at fair value at December 31, 2016 .....	<u>\$ 235,867</u>	<u>\$ 224,617</u>	<u>\$ 11,250</u>
<b>Liabilities:</b>			
Foreign currency exchange contracts (2).....	41	—	41
Liabilities measured at fair value at December 31, 2016 .....	<u>\$ 41</u>	<u>\$ —</u>	<u>\$ 41</u>

Description	Fair Value as of December 31, 2015	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)
<b>Assets:</b>			
Cash and cash equivalents and restricted cash	\$ 269,966	\$ 269,966	\$ —
Available-for-sale investments (3)	14,925	14,925	—
Foreign currency exchange contracts (1)	11,602	—	11,602
Assets measured at fair value at December 31, 2015	<u>\$ 296,493</u>	<u>\$ 284,891</u>	<u>\$ 11,602</u>
<b>Liabilities:</b>			
Foreign currency exchange contracts (2)	3	—	3
Liabilities measured at fair value at December 31, 2015	<u>\$ 3</u>	<u>\$ —</u>	<u>\$ 3</u>

(1) Included in "Prepaid expenses and other current assets" and "Other non-current assets" on the Company's Consolidated Balance Sheets.

(2) Included in "Other accrued liabilities" and "Other non-current liabilities" on the Company's Consolidated Balance Sheets.

(3) Included in "Short-term investments" on the Company's Consolidated Balance Sheets.

*Foreign Currency Derivatives*

The Company may enter into foreign currency derivatives to hedge future cash receipts on certain sales transactions that are payable in foreign currencies.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

As of December 31, 2016 and 2015, the Company had outstanding foreign currency exchange contracts that were designated and accounted for as cash flow hedges of anticipated future cash receipts on sales contracts payable in foreign currencies. The outstanding notional amounts were approximately (in millions):

	December 31,	
	2016	2015
British Pounds (GBP) .....	—	39.2
Euros (EUR) .....	1.5	6.0
Swiss Francs (CHF) .....	3.6	33.0
Canadian Dollars (CAD) .....	54.4	—

The Company had hedged foreign currency exposure related to these designated cash flow hedges of approximately \$46.9 million and \$107.3 million as of December 31, 2016 and December 31, 2015, respectively.

As of December 31, 2016 and 2015, the Company had outstanding foreign currency exchange contracts that had been dedesignated for the purposes of hedge accounting treatment. The outstanding notional amounts were approximately (in millions):

	December 31,	
	2016	2015
British Pounds (GBP) .....	33.8	31.5
Euros (EUR) .....	8.0	3.8
Swiss Francs (CHF) .....	—	0.3
Japanese Yen (JPY) .....	2,464.7	274.0
Canadian Dollars (CAD) .....	32.4	—

The foreign currency exposure related to these contracts was approximately \$107.5 million as of December 31, 2016 and \$55.6 million as of December 31, 2015. Unrealized gains or losses related to these dedesignated contracts are recorded in other income (expense) in the Consolidated Statements of Operations and are generally offset by foreign currency adjustments on related receivables. These foreign currency exchange contracts are considered to be economic hedges.

Cash receipts associated with the hedged contracts are expected to be received from 2017 through 2022, during which time the revenue on the associated sales contracts is expected to be recognized, or in the case of receivables denominated in a foreign currency, the receivables balances will be collected. Any gain or loss on hedged foreign currency will be recognized at the time of customer acceptance, or in the case of receivables denominated in a foreign currency, each period during which hedged receivables denominated in a foreign currency are outstanding.

As of December 31, 2016 and 2015, the fair value of outstanding foreign currency exchange contracts totaled a net gain of \$11.2 million and \$11.6 million, respectively.

Fair values of derivative instruments, consisting of foreign currency exchange contracts, designated as cash flow hedges (in thousands):

Balance Sheet Location	December 31,	
	2016	2015
Prepaid expenses and other current assets	\$ 71	\$ 3,956
Other non-current assets	367	5,183
Other accrued liabilities	(9)	—
Other non-current liabilities	(5)	(2)
Total fair value of derivative instruments designated as cash flow hedges	<u>\$ 424</u>	<u>\$ 9,137</u>

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

As of December 31, 2016 and 2015, unrecognized gains, net of tax, of \$0.7 million and \$6.0 million, respectively, were included in “Accumulated other comprehensive income” on the Company’s Consolidated Balance Sheets.

Fair values of derivative instruments, consisting of foreign currency exchange contracts, not designated as cash flow hedges (in thousands):

Balance Sheet Location	December 31,	
	2016	2015
Prepaid expenses and other current assets	\$ 5,344	\$ 1,807
Other non-current assets	5,468	656
Other accrued liabilities	(27)	(1)
Total fair value of derivative instruments not designated as cash flow hedges	<u>\$ 10,785</u>	<u>\$ 2,462</u>

**NOTE 4 ACCUMULATED OTHER COMPREHENSIVE INCOME**

The following table shows the impact on product revenue of reclassification adjustments from accumulated other comprehensive income resulting from hedged foreign currency transactions recorded by the Company for the years ended December 31, 2016, 2015 and 2014 (in thousands). The gross reclassification adjustments increased product revenue for all years presented.

	Year Ended December 31,		
	2016	2015	2014
Gross of Tax Reclassifications .....	\$ 22,207	\$ 6,163	\$ 2,748
Net of Tax Reclassifications.....	\$ 13,324	\$ 3,698	\$ 1,649

The following tables show the changes in Accumulated Other Comprehensive Income by component for the years ended December 31, 2016 and 2015 (in thousands):

Year Ended December 31, 2016				
	Unrealized Loss on Investments	Foreign Currency Translation Adjustments	Unrealized Gain on Cash Flow Hedges	Accumulated Other Comprehensive Income
Beginning balance .....	\$ (8)	\$ 1,675	\$ 5,975	\$ 7,642
Current-period change, net of tax .....	8	426	(5,294)	(4,860)
Ending balance .....	<u>\$ —</u>	<u>\$ 2,101</u>	<u>\$ 681</u>	<u>\$ 2,782</u>
Income tax expense (benefit) associated with current-period change .....	\$ 6	\$ (152)	\$ (2,425)	\$ (2,571)

Year Ended December 31, 2015				
	Unrealized Gain (Loss) on Investments	Foreign Currency Translation Adjustments	Unrealized Gain on Cash Flow Hedges	Accumulated Other Comprehensive Income
Beginning balance .....	\$ 12	\$ 2,069	\$ 4,422	\$ 6,503
Current-period change, net of tax .....	(20)	(394)	1,553	1,139
Ending balance .....	<u>\$ (8)</u>	<u>\$ 1,675</u>	<u>\$ 5,975</u>	<u>\$ 7,642</u>
Income tax expense (benefit) associated with current-period change .....	\$ (13)	\$ (335)	\$ 1,005	\$ 657

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

**NOTE 5 INVESTMENTS**

The Company's investments in debt securities with maturities at purchase greater than three months are classified as "available-for-sale." Changes in fair value are reflected in other comprehensive income (loss). The carrying amount of the Company's investments in available-for-sale securities are shown in the table below (in thousands):

	December 31, 2015
Short-term available-for-sale securities cost.....	\$ 14,939
Short-term available-for-sale securities unrealized loss .....	(14)
Short-term available-for-sale securities fair value.....	<u>\$ 14,925</u>

The Company's debt securities were investment grade and carried a long-term rating of A2/A or higher.

**NOTE 6 ACCOUNTS AND OTHER RECEIVABLES, NET**

A summary of net accounts and other receivables follows (in thousands):

	December 31,	
	2016	2015
Trade accounts receivable.....	\$ 156,705	\$ 83,750
Unbilled receivables .....	17,264	7,685
Advance billings.....	1,915	11,637
Short-term investment in sales-type lease.....	8,683	10,004
Other receivables .....	13,395	11,662
	197,962	124,738
Allowance for doubtful accounts.....	(21)	(19)
Accounts and other receivables, net.....	<u>\$ 197,941</u>	<u>\$ 124,719</u>

Unbilled receivables represent amounts where the Company has recognized revenue in advance of the contractual billing terms. Advance billings represent billings made based on contractual terms for which revenue has not been recognized.

As of December 31, 2016 and 2015, accounts receivable included \$104.6 million and \$44.2 million, respectively, due from the U.S. Government. Of these amounts, \$1.4 million and \$2.2 million were unbilled as of December 31, 2016 and 2015, respectively, based upon contractual billing arrangements with these customers. As of December 31, 2016, two non-U.S. Government customers accounted for 24% of total accounts and other receivables. As of December 31, 2015, one non-U.S. Government customer accounted for 18% of total accounts and other receivables.

**NOTE 7 SALES-TYPE LEASE**

As of December 31, 2016 and 2015, the Company had a sales-type lease with one of its customers. Under the terms of the original agreement, the Company provided a high performance computing solution to the customer for a term of four years, beginning at the customer's acceptance of the system. In the second quarter of 2016, the Company delivered a second high performance computing solution and extended the original agreement, which will now end in September 2020. The lease extension, and delivery of the second high performance computing solution, has been accounted for as a separate sale and is not considered a lease modification. The lease is designated in British Pounds and the Company has entered into certain foreign currency exchange contracts that act as an economic hedge for the foreign currency exposure associated with this arrangement.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

The following table shows the components of the net investment in the sales-type lease as of December 31, 2016 and 2015 (in thousands):

	December 31	
	2016	2015
Total minimum lease payments to be received	\$ 52,224	\$ 36,863
Less: executory costs	(10,139)	(7,434)
Net minimum lease payments receivable	42,085	29,429
Less: unearned income	(2,352)	(1,108)
Net investment in sales-type lease	39,733	28,321
Less: long-term investment in sales-type lease	(31,050)	(18,317)
Investment in sales-type lease included in accounts and other receivables	\$ 8,683	\$ 10,004

As of December 31, 2016, minimum lease payments for each of the succeeding four fiscal years were as follows (in thousands):

2017	\$ 13,681
2018	13,857
2019	14,115
2020	10,571
Total minimum lease payments to be received	\$ 52,224

**NOTE 8 INVENTORY**

A summary of inventory follows (in thousands):

	December 31	
	2016	2015
Components and subassemblies.....	\$ 31,695	\$ 20,806
Work in process .....	39,894	43,071
Finished goods .....	16,665	49,778
	\$ 88,254	\$ 113,655

As of December 31, 2016 and 2015, \$10.5 million and \$49.5 million, respectively, of finished goods inventory was located at customer sites pending acceptance. At December 31, 2016, two customers accounted for \$11.9 million of finished goods inventory and at December 31, 2015, three customers accounted for \$41.7 million of finished goods inventory.

During 2016, 2015 and 2014, the Company wrote-off \$4.8 million, \$0.5 million and \$2.3 million, respectively, of excess and obsolete inventory.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

**NOTE 9 PROPERTY AND EQUIPMENT, NET**

A summary of property and equipment follows (in thousands):

	December 31,	
	2016	2015
Land .....	\$ 498	\$ 275
Buildings .....	20,679	20,612
Furniture and equipment .....	11,740	14,190
Computer equipment .....	54,541	65,957
Leasehold improvements .....	2,976	1,098
	90,434	102,132
Accumulated depreciation and amortization .....	(59,814)	(71,053)
Property and equipment, net .....	\$ 30,620	\$ 31,079

Depreciation expense on property and equipment for 2016, 2015 and 2014 was \$12.5 million, \$13.3 million and \$12.8 million, respectively.

**NOTE 10 SERVICE SPARES, NET**

A summary of service spares follows (in thousands):

	December 31,	
	2016	2015
Service spares .....	\$ 6,503	\$ 15,082
Accumulated depreciation .....	(3,480)	(11,992)
Service spares, net .....	\$ 3,023	\$ 3,090

Depreciation expense on service spares for 2016, 2015 and 2014 was \$1.5 million, \$1.1 million and \$1.0 million, respectively.

**NOTE 11 DEFERRED REVENUE**

A summary of deferred revenue follows (in thousands):

	December 31	
	2016	2015
Deferred product revenue .....	\$ 14,274	\$ 22,215
Deferred service revenue .....	96,113	97,822
Total deferred revenue .....	110,387	120,037
Less long-term deferred revenue .....	(27,258)	(33,306)
Deferred revenue in current liabilities .....	\$ 83,129	\$ 86,731

As of December 31, 2016 and 2015, the U.S. Government accounted for \$60.3 million and \$57.7 million, respectively, of total deferred revenue. As of December 31, 2016 and 2015, no non-U.S. Government customers accounted for more than 10% of total deferred revenue.

**NOTE 12 COMMITMENTS AND CONTINGENCIES**

The Company has recorded rent expense under leases for buildings or office space, which were accounted for as operating leases, in 2016, 2015 and 2014 of \$8.4 million, \$5.9 million, and \$5.2 million, respectively. The 2016 rent expense includes a \$2.3 million lease termination fee for the Company's St. Paul facility.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

Minimum contractual commitments as of December 31, 2016, were as follows (in thousands):

	Operating Leases	Development Agreements
2017 .....	\$ 6,585	\$ 16,002
2018 .....	6,908	2,531
2019 .....	6,475	40
2020 .....	5,857	15
2021 .....	5,910	—
Thereafter.....	26,720	—
Minimum contractual commitments .....	<u>\$ 58,455</u>	<u>\$ 18,588</u>

In its normal course of operations, the Company engages in development arrangements under which it hires outside engineering resources to augment its existing internal staff in order to complete research and development projects, or parts thereof. For the years ended December 31, 2016, 2015 and 2014, the Company incurred \$15.6 million, \$14.3 million and \$12.2 million, respectively, for such arrangements.

*Litigation*

From time to time, the Company is subject to various legal proceedings that arise in the ordinary course of business. Other than as outlined below, none of these legal proceedings are deemed to be material to the Company's business.

The Company is subject to patent lawsuits brought by Raytheon. The first suit was brought by Raytheon on September 25, 2015 in the Eastern District of Texas (Civil Action No. 2:15-cv-1554) asserting infringement of four patents owned by Raytheon. Two of the asserted patents relate to computer hardware alleged to be encompassed by Cray's current and past products, and the two remaining asserted patents relate to features alleged to be performed by certain third-party software that Cray optionally includes as part of its product offerings. A second suit was brought by Raytheon on April 22, 2016 in the Eastern District of Texas (Civil Action No. 2:16-cv-423) asserting infringement of five patents owned by Raytheon. In this second suit, all five asserted patents relate to features alleged to be performed by certain third-party software that Cray optionally includes as part of its product offerings. Trial in the first action is currently scheduled to commence in March 2017 and trial in the second action is currently scheduled to commence in October 2017. The Company is vigorously defending these actions. The probable outcome of either litigation cannot be determined, nor can the Company estimate a range of potential loss. Based on its review of the matters to date, the Company believes that it has valid defenses and claims in each of the two lawsuits. As a result, the Company considers the likelihood of a material loss related to these matters to be remote.

**NOTE 13 INCOME TAXES**

Income taxes are recognized for the amount of taxes payable for the current year and for the impact of deferred tax assets and liabilities, which represent consequences of events that have been recognized differently in the financial statements under GAAP than for tax purposes.

Most of the Company's deferred tax assets result from net operating loss carryforwards and research and development tax credits. As of December 31, 2016, the Company had U.S. federal net operating loss carryforwards of approximately \$90.2 million and U.S. federal research and development tax credit carryforwards of approximately \$25.2 million. Upon the adoption of ASU 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting in March of 2016, the Company recognized \$16.6 million in deferred tax benefits from approximately \$47.4 million of federal net operating losses attributable to share-based income tax deductions that exceeded amounts that had been recognized for financial reporting purposes. These deferred tax benefits were recorded as a cumulative-effect adjustment to accumulated deficit. The federal net operating loss carryforwards will expire from 2019 through 2036, and the federal research and development tax credits will expire from 2021 through 2036 if not utilized. Utilization of \$25.6 million of the Company's federal net operating loss carryforwards generated prior to May 10, 2001 is limited under Section 382 of the Internal Revenue Code to \$4.3 million per year. As of December 31, 2016, the Company had approximately \$6.2 million of foreign net operating loss carryforwards in various jurisdictions. Most of the Company's foreign net operating losses can be carried forward indefinitely, with certain amounts expiring from 2017 to 2026.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

Income before income taxes consisted of the following (in thousands):

	Year Ended December 31,		
	2016	2015	2014
United States.....	\$ 2,648	\$ 38,362	\$ 5,710
International.....	7,273	4,415	3,987
Total.....	<u>\$ 9,921</u>	<u>\$ 42,777</u>	<u>\$ 9,697</u>

The tax provision (benefit) for income taxes related to operations consisted of the following (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Current provision (benefit):			
Federal.....	\$ 3	\$ 725	\$ 230
State.....	(279)	1,389	(392)
Foreign.....	1,443	1,023	740
Total current provision.....	<u>1,167</u>	<u>3,137</u>	<u>578</u>
Deferred provision (benefit):			
Federal.....	(2,127)	12,198	(53,242)
State.....	416	(52)	(885)
Foreign.....	(150)	(43)	923
Total deferred provision (benefit).....	<u>(1,861)</u>	<u>12,103</u>	<u>(53,204)</u>
Total provision (benefit) for income taxes.....	<u>\$ (694)</u>	<u>\$ 15,240</u>	<u>\$ (52,626)</u>

The tax provision (benefit) differs from the amount computed by applying the federal statutory income tax rate as follows (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Income tax provision at statutory rate.....	\$ 3,472	\$ 14,972	\$ 3,394
State taxes, net of federal benefit.....	89	897	(217)
Foreign income taxes.....	(407)	(12)	284
Additional deductions from share-based compensation.....	(1,815)	—	—
Deemed dividends for U.S. income tax purposes.....	329	407	492
Nondeductible expenses.....	231	283	337
Disallowed compensation.....	331	455	(116)
Audit settlement.....	(297)	—	—
Research and development tax credit.....	(2,470)	(1,733)	(1,140)
Effect of change in valuation allowance on deferred tax assets.....	(157)	(29)	(55,660)
Effective income tax provision (benefit).....	<u>\$ (694)</u>	<u>\$ 15,240</u>	<u>\$ (52,626)</u>



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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

Significant components of the Company's deferred income tax assets and liabilities follow (in thousands):

	December 31,	
	2016	2015
<b>Current:</b>		
<b>Deferred Income Tax Assets</b>		
Inventory .....	\$ 4,127	\$ 3,930
Accrued compensation .....	511	1,213
Deferred revenue .....	14,742	18,372
Net operating loss carryforwards .....	—	2,636
Research and development credit carryforwards .....	—	16,264
Other .....	5,402	4,303
Gross current deferred tax assets .....	24,782	46,718
Valuation allowance .....	(819)	(2,995)
Current deferred tax assets .....	23,963	43,723
<b>Deferred Income Tax Liabilities</b>		
Other .....	(4,846)	(5,095)
Current deferred tax liabilities .....	(4,846)	(5,095)
Net current deferred tax assets .....	\$ 19,117	\$ 38,628
<b>Long-Term:</b>		
<b>Deferred Income Tax Assets</b>		
Property and equipment .....	\$ 8,188	\$ 7,510
Research and development credit carryforwards .....	28,241	9,528
Net operating loss carryforwards .....	38,348	14,523
Goodwill .....	106	125
Share-based compensation .....	7,016	5,976
Other .....	7,537	4,084
Gross long-term deferred tax assets .....	89,436	41,746
Valuation allowance .....	(7,908)	(6,492)
Long-term deferred tax assets .....	81,528	35,254
<b>Deferred Income Tax Liabilities</b>		
Investment in sales-type lease, net .....	(13,728)	(7,611)
Intangible assets .....	(421)	(512)
Other .....	(883)	(1,277)
Long-term deferred tax liabilities .....	(15,032)	(9,400)
Net long-term deferred tax asset .....	\$ 66,496	\$ 25,854

For the year ended December 31, 2015, long-term deferred income tax liabilities in the amount of \$0.2 million have been included in other non-current liabilities on the Company's Consolidated Balance Sheet.

The Company recorded an income tax benefit of \$0.7 million during the year ended December 31, 2016, income tax expense of \$15.2 million during the year ended December 31, 2015 and an income tax benefit of \$52.6 million during the year ended December 31, 2014. The difference between the income tax provision at the statutory rate and the Company's effective income tax benefit for the year ended December 31, 2016 was the result of research and development tax credits and additional tax deductions from share-based compensation, sometimes referred to as excess tax benefits, partially offset by state taxes, non-deductible expenses and other permanent items. Excess tax benefits arise when tax deductions recognized by the Company with respect to share-based compensation exceed the compensation cost attributable to share-based compensation that was recognized in the Company's consolidated financial statements. The difference between the income tax provision at the statutory rate and the Company's effective income tax provision for the year ended December 31, 2015 was the result of state taxes, non-deductible expenses and other

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

permanent items, partially offset by research and development tax credits. The tax benefit recorded by the Company during the year ended December 31, 2014 was primarily attributable to a partial reduction, in the amount of \$55.7 million, of the remaining valuation allowance that was held against the Company's U.S. deferred tax assets.

The Company's decision to partially reduce, in the amount of \$55.7 million, the valuation allowance held against the Company's U.S. deferred tax assets during the year ended December 31, 2014 was based upon an evaluation of all available positive and negative evidence, known business risks and industry trends. The Company considers its actual results over several years to have stronger weight than other more subjective indicators, including forecasts, when considering whether or not to establish or reduce a valuation allowance on deferred tax assets and believes that its ability to forecast results significantly into the future is limited due to the rapid rate of technological and competitive change in the industry in which it operates. As of December 31, 2014 the Company had generated U.S. pre-tax income in each of the last three years and cumulative U.S. pre-tax income of \$184.8 million (\$51.1 million excluding the impact of the sale of the Company's interconnect hardware development program) over the last three years. In addition to the Company's cumulative income position, the assessment of the Company's ability to utilize its U.S. deferred tax assets included an assessment of forecasted domestic and international earnings over a number of years, which included the impact of several major contracts that were finalized during the fourth quarter of 2014.

The Company's conclusion about the realizability of its deferred tax assets, and therefore the appropriateness of the valuation allowance, is reviewed quarterly and could change in future periods depending on the Company's future assessment of all available evidence in support of the likelihood of realization of its deferred tax assets. If the Company's conclusion about the realizability of its deferred tax assets and therefore the appropriateness of its valuation allowance changes in a future period, it could record a substantial tax provision or benefit in the Consolidated Statements of Operations when that occurs.

The valuation allowance on deferred tax assets decreased by \$0.8 million, \$0.7 million and \$67.7 million in 2016, 2015 and 2014, respectively. The decrease in the valuation allowance for the year ended December 31, 2014 included a reduction, in the amount of \$55.7 million, of the valuation allowance held against the Company's U.S. deferred tax assets based upon an assessment of all positive and negative evidence relating to future years.

As of December 31, 2016, undistributed earnings, in the approximate amount of \$14.5 million, relating to the Company's foreign subsidiaries are considered to be permanently reinvested; accordingly, no provision for U.S. federal and state income taxes has been provided thereon. Upon repatriation of those earnings, in the form of dividends or otherwise, the Company would be subject to both U.S. income taxes (subject to an adjustment for foreign tax credits) and withholding taxes payable to the various foreign countries. Determination of the amount of unrecognized deferred U.S. income tax liability is not practicable due to the complexities associated with this hypothetical calculation. As of December 31, 2016, the Company's foreign subsidiaries held cash in the amount of \$14.3 million.

The following table summarizes changes in the amount of the Company's unrecognized tax benefits for uncertain tax positions for the three years ended December 31, 2016, 2015 and 2014 (in thousands):

Balance at December 31, 2013 .....	\$ 202
Increase related to prior year income tax positions.....	5,059
Increase related to current year income tax positions .....	369
Balance at December 31, 2014 .....	\$ 5,630
Increase related to prior year income tax positions.....	151
Increase related to current year income tax positions .....	433
Balance at December 31, 2015 .....	\$ 6,214
Increase related to prior year income tax positions.....	53
Decrease related to prior year income tax positions .....	(365)
Increase related to current year income tax positions .....	565
Balance at December 31, 2016 .....	\$ 6,467

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

The balance of unrecognized tax benefits as of December 31, 2016 was \$6.5 million of tax benefits that, if recognized, would affect the effective tax rate. It is not anticipated that the balance of unrecognized tax benefits will significantly change over the next twelve months.

The Company or its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. The Company defines its major tax jurisdictions to include Australia, Germany, the United Kingdom and the United States. The Company is no longer subject to income tax examinations with respect to Australia for periods before 2011 and for periods before 2015 in Germany and the United Kingdom, respectively. With respect to the U.S. federal and various state jurisdictions the Company is no longer subject to income tax examinations with respect to periods before 2013, although in such jurisdictions net operating loss and tax credit carryforwards generated in a year are subject to examination and adjustment for at least three years following the year in which such losses or credits are actually used to offset taxable income.

Estimated interest and penalties are recorded as a component of interest expense and other expense, respectively. Such amounts were not material for 2016, 2015 and 2014.

**NOTE 14 CREDIT FACILITIES**

As of December 31, 2016, the Company had a \$50.0 million revolving line of credit, or Credit Facility, with Wells Fargo Bank, National Association, designed to be used for general corporate purposes, including working capital requirements and capital expenditures. The Credit Facility also supports the issuance of letters of credit. The Credit Facility is secured by a first priority lien in all of the Company's accounts receivable and other rights to payment, general intangibles, inventory and equipment.

Any borrowings under the Credit Facility bear interest at either a fluctuating rate equal to the daily one month LIBOR rate plus a margin of 1.25% or a fixed interest rate for one, three or six months equal to the LIBOR rate for the applicable period plus a margin of 1.25%. The Company is also required to pay the lender customary letter of credit fees, and a commitment fee of 0.18% per annum in respect of the unutilized commitment amount under the Credit Facility. The Credit Facility requires that the Company maintain certain financial ratios and restricts its ability to incur additional indebtedness, pay dividends or distributions, create liens on assets, and engage in certain other activities. The Company was in compliance with all of its financial covenants as of the end of each quarter for the year ended December 31, 2016. The Credit Facility matures in December 2017.

The Company made no draws and had no outstanding cash borrowings on the credit facility as of December 31, 2016.

As of December 31, 2016, the Company had \$3.3 million in USD equivalent value in outstanding letters of credit and \$1.7 million in restricted cash associated with certain letters of credit to secure customer prepayments and other customer related obligations.

**NOTE 15 SHAREHOLDERS' EQUITY**

**Preferred Stock:** The Company has 5,000,000 shares of undesignated preferred stock authorized, and no shares of preferred stock outstanding.

**Common Stock:** The Company has 75,000,000 authorized shares of common stock with a par value of \$0.01 per share.

**Stock Plans:** As of December 31, 2016, the Company had one active equity incentive plan that provides shares available for option, restricted stock and restricted stock unit grants to employees, directors, executives and others.

**Stock Options:** In determining the fair value of stock options, the Company uses the Black-Scholes option pricing model. The following key weighted average assumptions were employed in the calculation for the indicated years ended December 31:

	2016	2015	2014
Risk-free interest rate.....	1.12%	1.31%	1.22%
Expected dividend yield .....	—%	—%	—%
Volatility .....	50.92%	50.55%	52.43%
Expected life (in years).....	4.0	4.0	4.0
Weighted average Black-Scholes value of options granted .....	\$ 13.16	\$ 11.23	\$ 11.16

The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. The Company does not anticipate declaring dividends in the foreseeable future. Volatility is based on historical data. The expected life of an option is based

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

on the assumption that options will be exercised, on average, about two years after vesting occurs. The Company recognizes compensation expense for only the portion of options that are expected to vest. Therefore, management applies an estimated forfeiture rate that is derived from historical employee termination data and adjusted for expected future employee turnover rates. The estimated forfeiture rates applied to the Company's stock option grants for the years ended December 31, 2016, 2015 and 2014 were 8.0%, 8.0%, and 8.3%, respectively. If the actual number of forfeitures differs from those estimated by management, additional adjustments to compensation expense may be required in future periods. The Company's stock price volatility, option lives and expected forfeiture rates involve management's best estimates at the time of such determination, which impact the fair value of the option calculated under the Black-Scholes methodology and, ultimately, the expense that will be recognized over the vesting period or requisite service period of the option. The Company typically issues stock options with a four-year vesting period (the requisite service period) and amortizes the fair value of stock options (share-based compensation cost) ratably over the requisite service period. Options to purchase shares expire no later than ten years after the date of grant.

A summary of the Company's stock option activity and related information follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)
Outstanding at January 1, 2014.....	2,078,069	\$ 9.29	
Granted.....	323,900	26.92	
Exercised.....	(411,352)	7.50	
Canceled and forfeited.....	(59,627)	18.45	
Outstanding at December 31, 2014.....	1,930,990	12.34	
Granted.....	307,450	27.86	
Exercised.....	(229,118)	9.99	
Canceled and forfeited.....	(60,847)	20.00	
Outstanding at December 31, 2015.....	1,948,475	14.83	
Granted.....	240,075	32.65	
Exercised.....	(168,825)	12.57	
Canceled and forfeited.....	(30,588)	26.60	
Outstanding at December 31, 2016.....	1,989,137	16.99	5.8
Exercisable at December 31, 2016.....	1,486,211	12.98	4.8
Available for grant at December 31, 2016.....	3,600,599		

Outstanding and exercisable options by price range as of December 31, 2016, were as follows:

Range of Exercise Prices per Share	Outstanding Options			Exercisable Options	
	Number Outstanding	Weighted Average Remaining Life (Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
\$ 0.00 - \$ 10.00	771,511	3.1	\$ 5.58	771,511	\$ 5.58
\$ 10.01 - \$ 20.00	390,595	5.9	\$ 15.22	364,408	\$ 14.90
\$ 20.01 - \$ 30.00	560,639	7.8	\$ 26.44	304,918	\$ 26.18
\$ 30.01 - \$ 42.40	266,392	9.3	\$ 32.73	45,374	\$ 34.68
\$ 0.00 - \$ 42.40	1,989,137	5.8	\$ 16.99	1,486,211	\$ 12.98

As of December 31, 2016, there was \$13.8 million of aggregate intrinsic value of outstanding stock options, including \$13.8 million of aggregate intrinsic value of exercisable stock options. Intrinsic value represents the total pretax intrinsic value for all "in-the-money" options (i.e., the difference between the Company's closing stock price on the last trading day of 2016 and the exercise price, multiplied by the number of shares of common stock underlying the stock options) that would have been received by the option holders if all option holders had exercised their options on December 31, 2016. This amount changes, based on the fair

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

market value of the Company's stock. Total intrinsic value of options exercised was \$4.0 million, \$5.0 million, and \$10.2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

**Restricted Stock:** During 2016, 2015 and 2014, the Company issued an aggregate of 9,893, 45,175, and 463,734 shares of restricted stock, respectively, to certain directors, executives and other employees. The grant date fair value of these grants was approximately \$0.3 million, \$1.4 million, and \$13.3 million for 2016, 2015 and 2014, respectively. Share-based compensation expense is recorded over the vesting period, which is generally one year for non-employee directors and four years for officers and employees of the Company.

A summary of the Company's unvested restricted stock grants and changes during the indicated years ended December 31 is as follows:

	Service Vesting Restricted Shares		Performance Vesting Restricted Shares		Total Restricted Shares	
	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value
Outstanding at January 1, 2014.....	1,127,700	\$ 12.05	1,094,000	\$ 15.94	2,221,700	\$ 13.97
Granted.....	463,734	28.74	—	—	463,734	28.74
Forfeited.....	(134,653)	15.39	(277,000)	17.49	(411,653)	16.80
Vested.....	(423,179)	11.14	—	—	(423,179)	11.14
Outstanding at December 31, 2014.....	1,033,602	19.48	817,000	15.41	1,850,602	17.68
Granted.....	45,175	30.44	—	—	45,175	30.44
Forfeited.....	(48,998)	24.00	(219,000)	15.60	(267,998)	17.14
Vested.....	(513,336)	15.34	(12,500)	28.20	(525,836)	15.64
Outstanding at December 31, 2015.....	516,443	24.12	585,500	15.07	1,101,943	19.31
Granted.....	9,893	34.86	—	—	9,893	34.86
Forfeited.....	(18,685)	24.73	(72,000)	15.57	(90,685)	17.46
Vested.....	(250,849)	22.14	—	—	(250,849)	22.14
Outstanding at December 31, 2016.....	256,802	26.43	513,500	15.00	770,302	18.81

The estimated forfeiture rates applied to the Company's service vesting restricted stock grants during the years ended December 31, 2016, 2015 and 2014 were 8.0%, 8.0% and 6.3%, respectively. The aggregate fair value of restricted shares vested during 2016, 2015 and 2014 was \$7.7 million, \$14.2 million, and \$11.9 million, respectively. Performance vesting restricted shares totaling 476,000 will expire unvested at the time of filing this Form 10-K as the criteria for vesting was not satisfied during the performance period. This will also have the impact of reducing the number of shares of outstanding Common Stock by 476,000 shares. The remaining performance vesting restricted shares are eligible to vest in 2017. No compensation cost has been recorded for these grants.

**Restricted Stock Units:** During 2016 and 2015, the Company issued an aggregate of 244,160 and 984,850 restricted stock and performance vesting restricted stock units, respectively, to certain executives and other employees. The grant date fair value of these grants was approximately \$8.0 million and \$29.5 million for 2016 and 2015, respectively. There were no restricted stock units issued or outstanding as of December 31, 2014. Restricted stock units have similar vesting characteristics as restricted stock but are not outstanding shares and do not have any voting or dividend rights. The Company records share-based compensation expense over the vesting period. At the time of vesting, a share of common stock representing each restricted stock unit vested will be issued by the Company.

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

A summary of the Company's unvested restricted stock unit grants and changes during the indicated years ended December 31 is as follows:

	Service Vesting Restricted Stock Units		Performance Vesting Restricted Stock Units		Total Restricted Stock Units	
	Units	Weighted Average Grant Date Fair Value	Units	Weighted Average Grant Date Fair Value	Units	Weighted Average Grant Date Fair Value
Outstanding at January 1, 2015 .....	—	\$ —	—	\$ —	—	\$ —
Granted .....	285,550	\$ 29.78	699,300	\$ 30.04	984,850	\$ 29.97
Forfeited .....	(12,500)	\$ 30.48	(66,600)	\$ 30.04	(79,100)	\$ 30.11
Vested .....	—	\$ —	—	\$ —	—	\$ —
Outstanding at December 31, 2015.....	273,050	\$ 29.75	632,700	\$ 30.04	905,750	\$ 29.95
Granted .....	220,575	\$ 31.89	23,585	\$ 42.65	244,160	\$ 32.93
Forfeited .....	(7,700)	\$ 29.44	—	\$ —	(7,700)	\$ 29.44
Vested .....	(60,204)	\$ 29.57	—	\$ —	(60,204)	\$ 29.57
Outstanding at December 31, 2016.....	425,721	\$ 30.89	656,285	\$ 30.49	1,082,006	\$ 30.65

The estimated forfeiture rates applied to the Company's service vesting restricted stock unit grants during the years ended December 31, 2016 and 2015 were 8.0% and 8.0%, respectively. The aggregate fair value of restricted stock units vested during 2016 was \$1.9 million. The performance vesting restricted stock units are subject to performance measures that are currently not considered "probable" of attainment and as such, no compensation cost has been recorded for these units. The performance vesting restricted stock units are eligible to vest between 2017 and 2020.

**Share-based Compensation Expense:** Including performance-based equity awards, the Company had \$43.1 million of total unrecognized compensation cost related to unvested stock options, unvested restricted stock and unvested restricted stock units as of December 31, 2016. Excluding the \$27.7 million of unrecognized compensation cost related to unvested restricted stock and unvested restricted stock units that are subject to performance measures that are currently not considered "probable" of attainment, unrecognized compensation cost is \$15.4 million. No compensation expense is recognized for unvested restricted stock or unvested restricted stock units subject to performance measures that are not considered "probable" of attainment. Unrecognized compensation cost related to unvested stock options, unvested non-performance-based restricted stock and unvested non-performance-based restricted stock units is expected to be recognized over a weighted average period of 2.5 years.

The following table sets forth the gross share-based compensation cost resulting from stock options, unvested restricted stock and unvested restricted stock units that were recorded in the Company's Consolidated Statements of Operations for the indicated years ended December 31 (in thousands):

	2016	2015	2014
Cost of product revenue.....	\$ 320	\$ 254	\$ 229
Cost of service revenue.....	211	276	255
Research and development .....	3,113	3,770	2,721
Sales and marketing .....	3,710	3,047	3,152
General and administrative .....	3,797	4,006	4,007
Total share-based compensation expense .....	\$ 11,151	\$ 11,353	\$ 10,364

**Employee Stock Purchase Plan (ESPP):** Under the Company's non-compensatory employee stock purchase plan, the maximum number of shares of the Company's common stock that employees could acquire under the ESPP is 1,750,000 shares. Eligible employees are permitted to acquire shares of the Company's common stock through payroll deductions not exceeding 15% of base wages. The purchase price per share under the ESPP is 95% of the closing market price on the fourth business day after the

**CRAY INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

end of each offering period. As of December 31, 2016, 2015 and 2014, an aggregate of 1,098,085, 1,070,343 and 1,043,228 shares, respectively, had been issued under the ESPP.

**NOTE 16 BENEFIT PLANS**

*401(k) Plan*

For the three years ended December 31, 2016, the Company's retirement plan covered substantially all U.S. employees and provided for voluntary salary deferral contributions on a pre-tax basis in accordance with Section 401(k) of the Internal Revenue Code of 1986, as amended. The Company matches a portion of employee contributions. The 2016, 2015 and 2014 Company match expense was \$2.9 million, \$2.6 million and \$1.6 million, respectively.

*Pension Plan*

The Company's German subsidiary maintains a defined benefit pension plan. At December 31, 2016, the excess of plan assets over the projected benefit obligation of \$2.0 million was \$0.2 million. At December 31, 2015, the excess of plan assets over the projected benefit obligation of \$2.1 million was \$0.2 million. Plan assets are invested in insurance policies payable to employees. Net pension expense was not material for any period. Contributions to the plan are not expected to be significant to the financial position of the Company.

**NOTE 17 SEGMENT INFORMATION**

The Company has the following reportable segments: Supercomputing, Storage and Data Management, Maintenance and Support, and Engineering Services and Other. The Company's reportable segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the Chief Executive Officer, who is the Chief Operating Decision Maker, in determining how to allocate the Company's resources and evaluate performance. The segments are determined based on several factors, including the Company's internal operating structure, the manner in which the Company's operations are managed, client base, similar economic characteristics and the availability of separate financial information.

*Supercomputing*

Supercomputing includes a suite of highly advanced, tightly integrated and cluster supercomputer systems which are used by large research and engineering centers in universities, government laboratories, and commercial institutions. Supercomputing also includes the ongoing maintenance of these systems as well as system analysts.

*Storage and Data Management*

Storage and Data Management includes Cray Data Warp and Sonexion as well as other third-party storage products and their ongoing maintenance and system analysts.

*Maintenance and Support*

Maintenance and Support provides ongoing maintenance of Cray supercomputers, big data storage and analytics systems, as well as system analysts.

*Engineering Services and Other*

Included within Engineering Services and Other are the Company's analytics business and Custom Engineering.

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

The following table presents revenues and gross margin for the Company's operating segments for the indicated years ended December 31 (in thousands):

	2016	2015	2014
<b>Revenue:</b>			
Supercomputing .....	\$ 510,403	\$ 581,733	\$ 459,729
Storage and Data Management.....	89,438	112,862	84,412
Maintenance and Support.....	107,795	97,091	86,573
Engineering Services and Other .....	29,968	30,094	17,465
Elimination of inter-segment revenue .....	(107,795)	(97,091)	(86,573)
<b>Total revenue</b>	<b>\$ 629,809</b>	<b>\$ 724,689</b>	<b>\$ 561,606</b>
<b>Gross Profit:</b>			
Supercomputing .....	\$ 173,245	\$ 177,048	\$ 146,565
Storage and Data Management.....	34,125	37,181	31,572
Maintenance and Support.....	43,147	41,487	38,819
Engineering Services and Other .....	12,845	11,454	6,277
Elimination of inter-segment gross profit.....	(43,147)	(41,487)	(38,819)
<b>Total gross profit</b> .....	<b>\$ 220,215</b>	<b>\$ 225,683</b>	<b>\$ 184,414</b>

Revenue and cost of revenue is the only discrete financial information the Company prepares for its segments. Other financial results or assets are not separated by segment.

The Company's geographic operations outside the United States include sales and service offices in Europe and the Middle East, South America, Asia Pacific and Canada. The following data represents the Company's revenue and long-lived assets for the United States and all other countries (in thousands):

	United States	All Other Countries	Total
<i>For the year ended December 31, 2016:</i>			
Product revenue .....	\$ 251,317	\$ 248,115	\$ 499,432
Service revenue.....	\$ 88,208	\$ 42,169	\$ 130,377
Long-lived assets .....	\$ 39,933	\$ 36,555	\$ 76,488
<i>For the year ended December 31, 2015:</i>			
Product revenue .....	\$ 373,494	\$ 227,800	\$ 601,294
Service revenue.....	\$ 88,956	\$ 34,439	\$ 123,395
Long-lived assets .....	\$ 39,014	\$ 23,238	\$ 62,252
<i>For the year ended December 31, 2014:</i>			
Product revenue .....	\$ 253,930	\$ 206,818	\$ 460,748
Service revenue.....	\$ 72,434	\$ 28,424	\$ 100,858
Long-lived assets .....	\$ 41,378	\$ 36,206	\$ 77,584

Long-lived assets as of December 31, 2016, 2015 and 2014, included \$31.1 million, \$18.3 million and \$31.1 million, respectively, of long-term investment in sales-type lease which was held by the Company's United Kingdom subsidiary.

Revenue attributed to foreign countries is derived from sales to customers located outside the United States. Revenue derived from the U.S. Government totaled approximately \$296.9 million, \$338.5 million and \$272.0 million in 2016, 2015 and 2014, respectively. In 2016, one non-U.S. Government customer accounted for 10% of total revenue. In 2015 and 2014, no non-U.S.



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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)**

Government customers accounted for more than 10% of total revenue. In general, concentrations of revenue by customer encompass all segments. In 2016, the United Kingdom accounted for 17% of total revenue. In 2015, no foreign countries accounted for more than 10% of total revenue. In 2014, the United Kingdom and Germany accounted for a combined 23% of total revenue.

**NOTE 18 RESEARCH AND DEVELOPMENT**

Details for the Company's net research and development expenses for the indicated years ended December 31 follows (in thousands):

	2016	2015	2014
Gross research and development expenses .....	\$ 130,006	\$ 126,060	\$ 104,797
Less: Amounts included in cost of revenue .....	(12,621)	(16,515)	(7,713)
Less: Reimbursed research and development (excludes amounts in revenue) ....	(5,255)	(12,982)	(3,036)
Net research and development expenses.....	<u>\$ 112,130</u>	<u>\$ 96,563</u>	<u>\$ 94,048</u>

**NOTE 19 INTEREST INCOME (EXPENSE)**

The detail of interest income (expense) for the indicated years ended December 31 follows (in thousands):

	2016	2015	2014
Interest income .....	\$ 2,120	\$ 1,465	\$ 643
Interest expense .....	27	(57)	(137)
Net interest income .....	<u>\$ 2,147</u>	<u>\$ 1,408</u>	<u>\$ 506</u>

Interest income is earned by the Company on cash and cash equivalents, investment balances and the investment in sales-type lease.

**NOTE 20 QUARTERLY DATA (UNAUDITED)**

The following table presents unaudited quarterly financial information for the two years ended December 31, 2016. In the opinion of management, this information contains all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation thereof.

The operating results are not necessarily indicative of results for any future periods. Quarter-to-quarter comparisons should not be relied upon as indicators of future performance. The Company's business is driven by a few significant contracts and, as a result, the Company's operating results are subject to very large quarterly fluctuations. The Company's earnings per share for the full year may not equal the sum of the four quarterly earnings per share amounts because of common share activity during the year.

(In thousands, except per share data)

For the Quarter Ended	2016				2015			
	3/31	6/30	9/30	12/31	3/31	6/30	9/30	12/31
Revenue .....	\$ 105,549	\$ 100,235	\$ 77,451	\$ 346,574	\$ 79,644	\$ 186,161	\$ 191,413	\$ 267,471
Cost of revenue .....	65,587	64,074	53,850	226,083	55,608	136,576	125,531	181,291
Gross profit .....	39,962	36,161	23,601	120,491	24,036	49,585	65,882	86,180
Research and development, net .....	25,840	27,399	29,084	29,807	22,187	20,106	24,989	29,281
Sales and marketing .....	16,001	15,380	15,010	18,502	12,552	13,412	16,132	18,054
General and administrative ..	7,338	9,019	7,968	9,728	6,140	6,435	6,729	8,662
Net income (loss) .....	(5,013)	(13,126)	(23,021)	51,775	(9,394)	5,781	10,855	20,295
Net income (loss) per common share, basic.....	\$ (0.13)	\$ (0.33)	\$ (0.58)	\$ 1.30	\$ (0.24)	\$ 0.15	\$ 0.28	\$ 0.51
Net income (loss) per common share, diluted .....	\$ (0.13)	\$ (0.33)	\$ (0.58)	\$ 1.27	\$ (0.24)	\$ 0.14	\$ 0.27	\$ 0.50

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders  
Cray Inc.

We have audited the accompanying consolidated balance sheets of Cray Inc. and Subsidiaries (“the Company”) as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive income, shareholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2016. Our audits also included the financial statement schedule listed in the index at item 15(a)(2). The Company’s management is responsible for these consolidated financial statements and schedule. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Cray Inc. and Subsidiaries as of December 31, 2016 and 2015, and the consolidated results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”), and our report dated February 10, 2017, expressed an unqualified opinion.

/S/ PETERSON SULLIVAN LLP

Seattle, Washington  
February 10, 2017

**Schedule II — Valuation and Qualifying Accounts(1)**

**December 31, 2016**

**(In thousands)**

Description	Balance at Beginning of Period	Charge to Expense	Deductions <sup>(2)</sup>	Balance at End of Period
<b><i>Year ended December 31, 2014:</i></b>				
Allowance for doubtful accounts	\$ 157	\$ 22	\$ (82)	\$ 97
<b><i>Year ended December 31, 2015:</i></b>				
Allowance for doubtful accounts	\$ 97	\$ —	\$ (78)	\$ 19
<b><i>Year ended December 31, 2016:</i></b>				
Allowance for doubtful accounts	\$ 19	\$ 2	\$ —	\$ 21

(1) The Company does not have any warranty liabilities.

(2) Deductions represent uncollectible accounts written off, net of recoveries.

## INVESTOR INFORMATION

### BOARD OF DIRECTORS

**Stephen C. Kiely, Chairman**  
Retired Chief Executive Officer

**Prithviraj Banerjee**  
Executive Vice President  
and Chief Technology Officer  
Schneider Electric

**Martin J. Homlish**  
Chief Executive Officer  
AMP

**Sally G. Narodick**  
Retired Chief Executive Officer

**Daniel C. Regis**  
General Partner  
Regis Investments, LP

**Max L. Schireson**  
Retired Chief Executive Officer

**Brian V. Turner**  
Retired Chief Financial Officer

**Peter J. Ungaro**  
President and Chief Executive Officer  
Cray Inc.

### KEY COMPANY EXECUTIVES

**Peter J. Ungaro**  
President and Chief Executive Officer

**Brian C. Henry**  
Executive Vice President and Chief Financial Officer

**Barry C. Bolding**  
Senior Vice President and Chief Strategy Officer

**Charles D. Fairchild**  
Vice President, Corporate Controller and  
Chief Accounting Officer

**Frederick A. Kohout**  
Senior Vice President and Chief Marketing Officer

**Charles A. Morreale**  
Senior Vice President, Field Operations

**Efstathios Papaefstathiou**  
Senior Vice President, Research and Development

**Michael C. Piraino**  
Senior Vice President Administration,  
General Counsel and Corporate Secretary

**Steven L. Scott**  
Senior Vice President and Chief Technology Officer

### SHAREHOLDER SERVICES

**Computershare Inc.**, our transfer agent and registrar, can be contacted as indicated below to help you with a variety of shareholder-related services, including:

- Change of address
- Lost stock certificates
- Transfer of stock to another person
- Additional administrative services
- Account consolidation

### Computershare Inc. Shareholder Relations

P. O. Box 30170  
College Station, TX 77842-3170  
or  
211 Quality Circle, Suite 210  
College Station, TX 77845  
[www.computershare.com/investor](http://www.computershare.com/investor)

### Shareholder online inquiries

<https://www-us.computershare.com/investor/Contact>

Telephone: 877-522-7762  
TDD for Hearing Impaired: 800-490-1493  
International Shareholders: 201-680-6578  
TDD International Shareholders: 781-575-2394

### AVAILABLE INFORMATION

Our Annual Report on Form 10-K, our other SEC reports and filings, our Code of Business Conduct, Corporate Governance Guidelines, the charters of our Board committees and other governance documents and information are available on our website, [www.cray.com](http://www.cray.com), under "Company"

You may also obtain a copy of our Form 10-K filed with the SEC and other Company information without charge, by writing or calling:

Cray Inc.  
Investor Relations  
901 Fifth Avenue  
Suite 1000  
Seattle, WA 98164  
Telephone: 866-729-2729

*Shareholders who own Cray Inc. stock through a brokerage account and receive multiple copies of this annual report can contact their broker to request consolidation of their accounts*

### CRAY ANNUAL MEETING

**JUNE 13, 2017 – 3:00 P.M. PT**  
901 Fifth Avenue  
Fifth Avenue Conference Room  
Seattle, WA 98164

### CORPORATE HEADQUARTERS

Cray Inc.  
901 Fifth Avenue, Suite 1000  
Seattle, WA 98164  
206-701-2000  
206-701-2500 fax

### OTHER PRINCIPAL OFFICES

1050 Lowater Road  
Chippewa Falls, WI 54729  
2131 Lindau Lane, Suite 210  
Bloomington, MN 55101

### INTERNET

E-Mail: [ir@cray.com](mailto:ir@cray.com)  
Website: [www.cray.com](http://www.cray.com)

### LEGAL COUNSEL

Fenwick & West LLP  
Seattle, WA

### INDEPENDENT REGISTERED

### PUBLIC ACCOUNTING FIRM

Peterson Sullivan LLP  
Seattle, WA

### STOCK MARKET INFORMATION

Cray Inc. common stock is traded on the Nasdaq Global Market under the Symbol CRAY

### EQUAL OPPORTUNITY

Cray is an equal opportunity employer

### Safe Harbor Statement

This Annual Report contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities Act of 1933, as amended, including, but not limited to, statements related to Cray's financial guidance and expected operating results and its product development, sales and delivery plans. These statements involve current expectations, forecasts of future events and other statements that are not historical facts. Inaccurate assumptions and estimates as well as known and unknown risks and uncertainties can affect the accuracy of forward-looking statements and cause actual results to differ materially from those anticipated by these forward-looking statements. Factors that could affect actual future events or results include, but are not limited to, the risk that Cray does not achieve the operational or financial results that it expects, the risk that Cray will not be able to secure orders and acceptances for Cray products in any particular periods at expected levels or with the anticipated timing, the risk that the segments of the high-end of the supercomputing market that Cray targets do not recover from the current downturn as early or as completely as expected or at all, the risk that government funding for research and development projects is less than expected, the risk that new third-party processors and other components for our systems are not available with the anticipated performance, timing or pricing, the risk that the systems ordered by customers are not delivered when expected, do not perform as expected once delivered or have technical issues that cannot be corrected within the time for planned acceptances, the risk that the acceptance process for delivered systems is not completed, or customer acceptances are not received, when expected or at all, the risk that Cray is not able to successfully sell products and services in the big data, artificial intelligence and commercial markets as expected or at all, the risk that the expense to address Cray systems at customer sites that have issues with third-party components or with Cray components is material, the risk that Cray is not able to successfully complete its planned product development efforts in a timely fashion or at all, the risk that Cray is not able to achieve anticipated gross margin or expense levels and such other risks as identified in Cray's annual report on Form 10-K for the period ended December 31, 2016, and from time to time in other reports filed by Cray with the U.S. Securities and Exchange Commission. You should not rely unduly on these forward-looking statements, which apply only as of the date of this Annual Report. Cray undertakes no duty to publicly announce or report revisions to these statements as new information becomes available that may change Cray's expectations.

CRAY, and the stylized CRAY mark, SONEXION and URIKA are registered trademarks of Cray Inc. in the United States and other countries. The CS and XC families of supercomputers, CS-Storm, DataWarp, Chapel and other Cray technologies are all trademarks of Cray Inc. Other trademarks used in this Annual Report are the property of their respective owners.



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