

SILICON GRAPHICS INC  
Form 10-K  
September 22, 2008  
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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 10-K**

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(Mark One)

**Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.**

For the fiscal year ended June 27, 2008.

**Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.**

For the transition period \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 001-10441

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**SILICON GRAPHICS, INC.**

(Exact name of registrant as specified in its charter)

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Delaware  
(State or Other Jurisdiction of)

94-2789662  
(I.R.S. Employer)

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Incorporation or Organization)

Identification No.)

1140 East Arques Avenue, Sunnyvale, California 94085-4602

(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (650) 960-1980

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

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$0.01 par value	The NASDAQ Capital Market

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 of 1933. 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 Securities Exchange Act of 1934 (the Exchange 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Report or any amendment to this report.

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   
Non-accelerated filer

Accelerated filer   
Smaller reporting company

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

Aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter \$130,062,148 (As of December 28, 2007)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by the court. Yes  No

**As of August 29, 2008, the registrant had 11,595,245 shares of Common Stock outstanding.**

### **DOCUMENTS INCORPORATED BY REFERENCE**

Parts of the Proxy Statement for registrant's 2008 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

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**SILICON GRAPHICS, INC.**

**FORM 10-K**

**FOR FISCAL YEAR ENDED JUNE 27, 2008**

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***Cautionary Statement Regarding Forward-Looking Information***

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. These forward-looking statements include, but are not limited to, those concerning the following:

increased demands on our working capital due to our increased bookings volume, in particular for large sales transactions;

our ability to raise additional capital in the future on commercially attractive terms or at all, which would restrict our growth and impair our ability to operate;

our possible inability to attain profitability on a quarterly, annual or sustained basis and risks related to the impact on our business of cost reduction initiatives to be effected in the coming quarters to bring costs more in line with current revenues;

the extremely low trading volume of our stock and its price volatility resulting in stockholders only being able to sell shares at a loss or a price below the most recently quoted share price, and

our operating results continue to fluctuate significantly making them difficult to predict and set expectations, which, if results fall below expectations, can result in a decline in our stock price.

In some cases, you can identify forward-looking statements by terms such as anticipates, believes, could, estimates, expects, intends, may, plans, potential, predicts, projects, should, will and would, as well as similar expressions. Forward-looking statements reflect our current views with respect to future events, are based on assumptions and are subject to risks, uncertainties and other important factors. We discuss many of these risks, uncertainties and other important factors in greater detail under the heading **Risk Factors** and elsewhere in this report and in our most recent annual report on Form 10-K. Given these risks, uncertainties and other important factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date these forward-looking statements are made. We undertake no obligation to publicly update or revise any forward-looking statements, whether changes occur as a result of new information, future events, changed assumptions, or otherwise.

**PART I**

**ITEM 1. BUSINESS**

***General***

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Silicon Graphics, Inc., is a leader in high performance computing ( HPC ) and data management. We sell solutions that consist of a combination of our shared memory servers, clustered computing servers, data storage products and visualization systems integrated with a choice of software, customer support services and professional services. As a leading developer of enterprise-class, high-performance features for the Linux® operating system, we provide our customers with a standard Linux operating environment combined with our differentiated Linux extensions that improve performance, simplify system management and provide a more robust development environment.

Our products and services are used by the scientific, technical and business communities to solve challenging data-intensive computing, data management and visualization problems. These problems typically require large amounts of computing power and fast and efficient data movement both within

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the computing system and to and from large-scale data storage installations. Our end users employ our systems to access, analyze, transform, manage, visualize and store very large amounts of data in real time or near real time. The vertical markets we serve include defense and strategic systems, weather and climate, physical sciences, life sciences, energy (including oil and gas), aerospace, automotive, general manufacturing, media and entertainment, and business intelligence and data analytics. Applications for our systems within these vertical markets include simulating global climate changes, accelerating engineering of new automotive designs, supporting homeland security initiatives, managing video content archives, and gaining business intelligence through data-mining. Our services educate our customers and facilitate rapid installation and implementation of our products thereby optimizing their use and productivity.

During fiscal 2008, we filled key leadership positions in Sales, Corporate Strategy, Software, and Human Resources, shipped our first SGI® Altix® ICE clustered computing systems, launched our SGI InfiniteStorage NEXIS network-attached storage (NAS) family, announced a new generation of visualization products, defined and invested in our Industrial Strength Linux Environment ( ISLE ) initiative, reorganized our sales and marketing organizations into a vertical focus, developed important sales and marketing relationships to broaden our market reach, and implemented new services initiatives. To help accelerate our ISLE efforts, we acquired software, patents, and technology formerly owned by Linux Networx, Inc., in the areas of cluster design, power and cooling and overall cluster optimization in February 2008.

## **Business Strategy**

For more than 25 years, our products and services have enabled discovery, innovation and information transformation for scientists, engineers and creative professionals who benefit from systems engineered to meet their specific needs. With our technology and market knowledge we are able to deliver products that have performance and ease-of-use features that enable our customers to achieve their goals more quickly. Our unique shared-memory architecture, our advanced cluster computing capabilities, our Linux software strength, our visualization and data management software, and the manageability of our server, visualization and storage product lines enable customers with large volumes of data to access, analyze, transform, and visualize their data to improve their decision-making and overall competitive advantage. Our objective is to advance our leadership in HPC and data management while we substantially increase our market share. We believe that our ability to achieve this objective is based on the following competitive advantages:

**Advanced cluster computing system capabilities.** Our high-end cluster computing series, the SGI Altix ICE, was designed for scalability, with features that increase system density, energy efficiency and reliability, as well as improve performance and price/performance ratio. SGI Altix ICE includes innovative features which reduce the number of failure points in the system and enhance its performance and usability, such as integrated switches, high-performance interconnects, compact blade design, cable-free blade enclosures, hierarchical system management and an HPC-optimized software stack.

**Shared memory computing system architecture providing fast data transfer within the system.** We have designed the architecture for our shared memory computing systems for efficient data movement, uniting many industry-standard processors and large amounts of physical memory into a tightly integrated computing system. Our shared memory architecture is a cache coherent Non-Uniform Memory Access architecture that we call NUMAflex®. Cache coherent refers to the ability to maintain a mutually consistent view of data among multiple processors collaborating to perform computations on that data. A key component of NUMAflex is the design of our node controller ( hub ) and interconnect ( router ) chips, which move data between processors up to hundreds of times faster than other providers HPC systems, while maintaining that consistent view of the data for the processors.

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**Highly scalable, balanced shared memory system architecture.** As end users add processors, memory or input/output (I/O) components to our shared memory systems, these systems continue to deliver low latency and high bandwidth performance, and no single component creates a bottleneck for overall system performance. We believe a balanced system design results in higher application performance and greater system utilization by end users.

**Seamless implementation of multi-core processor roadmap.** Widely-used processors today have up to four cores per processor. We expect the number of cores per processor to increase to 32 and beyond as the computing industry seeks to increase computing speed and as power loss and heat generation constrain further advances in processors with single or few cores. Longer term, unless there are major breakthroughs in controlling power loss and heat generation, we expect the number of cores in processors to continue to increase. We believe our extensive experience in scalable shared memory SSI architectures with many processors is directly applicable to designing high performance systems with processors that contain increasing numbers of cores.

**Leadership in contribution to the open source community to improve HPC performance.** We have been a pioneer and a leader in developing software and introducing extensions to the Linux operating system for HPC. We have been and continue to be one of the largest contributors to the Linux open source kernel. Our current focus is scalable performance and resilience for both data movement and computation. When introducing enhancements to Linux, we work with the open source community so that these improvements will become part of the standard Linux distribution, thus ensuring compatibility for existing customer and independent software vendor, or ISV applications.

**Differentiated software that increases performance and ease of system administration in the Linux environment.** With our ISLE initiative and ensuing software suite we address the challenges of system administration, workflow management, application performance, and ease of use in Linux hybrid computing environments by establishing a well integrated suite of software to meet the needs of their administrators, end users and developers. We believe ISLE will offer differentiated value and will be an important part of customers' purchasing decisions. It is a service-oriented architecture ( SOA ) that provides a framework and interfaces for combining third party, vendor and/or open system software applications into a coherent, easy to manage environment. In addition, SGI ProPack , a software suite for Linux that we offer for differentiated value over our competitors in a standard Linux environment, includes tools to improve application performance, the software development environment and administration of our core server products. We also offer differentiated Linux-based storage management tools that allow for optimal access, data management and control for up to petabytes of data. The SGI ProPack suite and our storage management tools underpin our ISLE suite.

**Use of industry standard components and software to achieve lower costs.** We use open source software and industry-standard components, such as premium dynamic random access memory chips, or DRAMs, and processors from the Intel® Itanium® and Xeon® processor families, as core elements of our products. We add our own technology in areas that deliver additional value to end users through differentiated features and performance. Incorporating open source software and industry-standard components enables us to offer systems to our customers that cost less than if each component of our systems were created specifically for our systems. In our storage product line, we incorporate best-in-class subsystems, including disk arrays and controllers from third party suppliers.

**Close engagement with customers and deep domain expertise.** We help our end users select, configure, install and use our systems so that their purchases are tailored to their needs. To do this, we develop knowledge of their environments and their computing or workflow requirements. Our sales teams consist of highly qualified systems engineers and



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technically-oriented account managers who are able to define the computing solution that best fits the customer application requirements and facility constraints. Our engineers and executives meet regularly with the SGI User Group , an independent group whose membership includes leading-edge users of our systems. We believe that our close interaction with leaders of the computing world and many of our most technologically advanced customers in our significant vertical markets is critical to our success and has major influence on our architectural approach and our product roadmap.

***Benchmarking services and developer programs to improve application performance.*** Through our global benchmarking center and our solutions center, we utilize a full range of our hardware and software, integrated in a wide variety of configurations, for application testing, benchmarking and performance tuning of end users and third-party applications. At these centers, our personnel work with end users to build and optimize large-scale computing systems, conduct proof-of-concept testing and simulate end-user environments. In addition, our global developer program provides independent software vendors, systems integrators and consultants technical information for developing and porting their applications, as well as access to our online systems to streamline the implementation.

***Business practices to accelerate installation and startup of our systems.*** We install large systems quickly and have them deployed and running much sooner than is typical of our competition. We design our systems for ease of installation and minimal number of failure points. We fully assemble and test our computing systems in our manufacturing facility before they are delivered to the customer, in contrast to many of our cluster computing system competitors, who do not assemble the systems for final test until after they are delivered to the customer.

Our objective is to advance our leadership in HPC and data management while we substantially increase our market share. The competitive advantages detailed above form the foundation of our strategy to achieve this objective. Key elements of our strategy include:

***Leverage our competitive advantages to gain market share in our existing and new markets.*** As data management and HPC needs expand, we believe our competitive advantages are becoming more relevant to larger portions of our target markets, not only for traditional HPC applications, but also for high-performance data management applications such as business intelligence gathered through data mining and data warehousing. To take full advantage of this market opportunity, we have added a broad range of cluster computing systems and visualization products. We are expanding our marketing activities in our traditional government, industrial and research vertical markets and in new high-performance database and Linux cluster market segments. We have reorganized our sales organization to have a vertical market focus. In addition, we are seeking to establish or expand co-marketing relationships with major software and systems integrators and value-added resellers.

***Continue the migration toward integrated solutions, including core hardware platforms, software and professional service components, that are configured for each customer s specific needs.*** We seek to capitalize on our expertise in many HPC application domains by providing our end users with fully integrated and customized solutions, which are configured to serve their critical business requirements, including solving their most demanding problems. At the core of our solutions are our shared memory and cluster computing system servers, our storage systems and our recently introduced visualization products. We surround these core hardware platforms with the Linux operating system, enhanced by our differentiated suite of software, creating a robust, high performance and stable environment. We complete the solution by including customer support and professional service components so that our end users are operational in as short a time as possible. We seek to lower our end users total cost of ownership by providing fast installation and startup, superior system reliability, availability

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and serviceability, energy-efficient power and cooling and high systems density to accommodate end users' limitations on power and floor space. We believe our solutions offer our customers the best price/performance value as well as the best sustained performance.

***Build on our superior customer support and expand our professional services.*** We believe that the quality of our customer support and professional services is a key differentiator and determinant in our customers' purchasing decisions. We believe these services, which enable our end users to maximize the value from their HPC, storage, and visualization investments, create significant customer loyalty. In fiscal 2008 we began offering Support Solutions Plus, expanding our support of third party products. We believe our new visualization products coupled with our ISLE initiative will generate significant professional services opportunities.

***Advance the Linux computing environment for HPC through improved performance and reduced complexity.*** Through our ISLE initiative, we are committed to delivering a robust Linux environment for hybrid computing installations that provides enterprise-class users with ease of administration, high performance and reliability. We believe that ISLE will be a key differentiator for us and will be an important part of customers' purchasing decisions. With ISLE, we will combine our own differentiated software with open source and third-party software to create an open, yet well-integrated, suite of software, tools and utilities.

***Maintain technological leadership in our core platforms of HPC, storage and visualization systems through continued innovation.*** We focus our research and development efforts where we believe differentiation from a standard component, product or technology holds the highest potential for increasing our market share. These include: shared memory computing system architecture; integrated system design optimized for space, power, performance, reliability and usability; the Linux development and operating environment; software to exploit the differentiated features of our computing platforms; and storage software to enable better performance, scalability and ease of management of large amounts of data.

## ***Segment Information***

We have two reportable segments, Products and Global Services. Our reportable segments are determined after assessment of factors such as quantitative thresholds of business components to be included into reportable segments, customer base, economic characteristics, homogeneity of products, technology, delivery channels and other factors, and are aligned with the process by which the chief operating decision maker (our Chief Executive Officer) makes operating decisions and evaluates performance.

Our Product revenue is comprised of sales of our core systems and our legacy systems, as well as sales of a variety of software products that increase the efficiency, performance, and manageability of the systems or software applications for visualization and storage management. Our core systems consist of servers, storage and visualization systems based on the Intel Itanium or Intel Xeon processors, industry standard graphics processors, and the Linux or Microsoft® Windows® operating systems. Our core systems include our server products sold under the SGI Altix brand name, our storage systems sold under the SGI InfiniteStorage brand name, and our recently introduced visualization systems sold under the Virtu brand name. Our legacy systems consist of high-performance servers and visualization systems based on MIPS® RISC processors and the IRIX® operating system. Our legacy systems include the SGI Origin® family of high-performance servers, the Silicon Graphics® Tezro® and Silicon Graphics Fuel® workstations and the Silicon Graphics Onyx® family of graphics systems. Our legacy systems also include the remarketed versions of the MIPS and IRIX based workstations, graphics systems and high-performance servers as well as remarketed versions of our storage solutions.

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Our Global Services revenue is comprised of sales from two types of services: customer support services and professional services. Our global services organization supports our computer hardware and software products and provides professional services to help customers realize the full value of their information technology investments. Our customer support organization provides ongoing maintenance and technical support for our products and some third party products, as well as contracted maintenance services, hardware deployment services (install and de-install), time and materials-based services and spare parts. Our professional services organization provides technology consulting, project management, managed services, customer education, and third-party products needed to complete customer installations. We derive the majority of our professional services revenue from third-party product sales, which we provide and integrate into customer environments.

In fiscal 2008 and 2007, Products represented approximately 48% and 56%, respectively, of total net revenues. In fiscal 2008 and 2007, Global Services represented approximately 52% and 44%, respectively, of total net revenues. A table providing external revenue for similar classes of products and services and for our reportable segments is found in Note 18 to the Consolidated Financial Statements in Item 8.

## ***Products***

We provide a broad line of products designed to address the demands of HPC and data management applications. These products allow our customers to run data-intensive applications rapidly and to store and visualize their data. Our core products are our HPC computing systems, storage products and visualization systems based on the Intel Itanium or Xeon processors and the Linux or Windows operating system. Our storage product lines integrate disk systems, ranging from entry-level disk arrays to complex storage systems, from LSI and DataDirect Networks. Our legacy systems are our HPC servers, storage products and visualization systems based on our MIPS processors and IRIX operating system.

## ***Core Systems***

Our products predominantly utilize a software environment that is based on the industry-standard Linux operating system and comprehensive data management tools, as well as open source software and our own execution, development and administrative tools and utilities. We believe that our integrated software environment and the features of our architecture and hardware differentiate our product offerings in performance and ease of use. Our products can be customized to meet end-user requirements and were developed to permit easy hardware and software installation, both to add capacity and to take advantage of future technology advances.

We design our product for performance, quick deployment, efficient operation, high system availability and easy serviceability. Our servers incorporate premium quality components, selected for superior functionality and reliability. In addition, we design our systems to minimize the number and complexity of interconnects for power and data transfer in order to improve reliability, speed of implementation and serviceability.

***Core Server Products.*** Our server products provide users with computing and visualization functionality and can provide the control function in a storage network. They are based primarily on the Linux operating system and the Intel Itanium or Xeon processor families. We also offer the Microsoft CCS operating system on our SGI Altix XE servers.

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Our server products are sold under the SGI Altix brand name. In 2003, we introduced the first product in our SGI Altix line, which was our first system to use the Linux operating system combined with processors from Intel. Our high-end servers are the Itanium-based SGI Altix 4700, a shared memory single system image ( SSI ) system that we introduced in February 2006, and our SGI Altix

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ICE, a cluster computing system based on the Intel Xeon processor, which first shipped in August 2007. Our mid-range servers are our Itanium-based SGI Altix 450, a shared memory SSI system introduced in June 2006, and our Xeon-based SGI Altix XE, our entry into the cluster computing server market segment, which we introduced in July 2006. Our product strategy includes developing server products that increase end user productivity by combining the benefits of both cluster computing and shared memory architectures in a single hybrid server system.

Our high-end server products can include our water-cooled door technology to reduce heat load substantially in customers facilities by extracting heat directly from the individual server racks. This technology is one of several components of our high-end server products designed to improve energy efficiency.

**Linux Operating Environment.** We believe our extensive experience with the Linux operating system and related tools has allowed us to develop software tools and utilities that reduce complexity and increase productivity and performance. We integrate differentiated software tools and utilities with the open source standard Linux operating system typically provided by RedHat or Novell. Our SGI ProPack software suite includes memory management/placement, cross partition allocation, linkless Flexible File I/O, SGI Performance Co-Pilot system monitoring tool, parallel application development libraries, a transparent I/O accelerator module, and SGI Tempo, a multi-tier cluster system management tool. These SGI ProPack tools and utilities are intended to increase processing and data I/O speeds using a variety of queuing, buffering, addressing and segmentation techniques. We believe our approach to providing an optimized Linux environment allows our end users to take advantage of the performance and cost efficiencies provided by leading-edge standard hardware components in a shared memory, cluster, or hybrid system.

We are creating an ISLE product for our customers which we believe will allow greater end-user productivity, better software development capability, easier system management and administration for environments which contain a mix of shared memory, cluster, and storage systems. ISLE will combine our differentiated software with software available in the open source to establish a well integrated suite of Linux software and tools to meet the needs of the end user, administrator, and developer. We believe ISLE will allow these groups to obtain increased value from their systems.

**Shared Memory Server Series.** We offer two lines of shared memory servers, our high-end SGI Altix 4700 and our mid-range SGI Altix 450. These servers feature Intel Itanium processors, the Linux operating system and our NUMAflex shared memory architecture. Our NUMAflex architecture is a cache coherent non-uniform memory access architecture. Our shared memory products are designed to enable customers to configure systems to address their computing requirements while maintaining flexibility as their needs change over time. End users may require different levels of processing power, memory and I/O. We allow customers to scale each of those dimensions independently and invest only in the capabilities they require. We believe our NUMAflex architecture and our interconnect technology called NUMAlink provide a balanced design, meaning that a performance bottleneck is not created in one of the dimensions when the level of another dimension is increased. We believe we are unique in our ability to scale in each of those three dimensions independently.

**SGI Altix 4700.** We believe SGI Altix 4700 is the most scalable system in the industry, running up to 1024 Itanium processors in a single operating system image. End users have further expanded SGI Altix systems by incorporating additional NUMAlink interconnect technology or industry-standard networking interconnects to create computers of up to 10,240 processors that are among the most powerful in the world today. These systems have a globally addressable memory range up to 128 terabytes and we have customers today with installations with 13 terabytes of memory. The SGI Altix 4700 incorporates an advanced packaging design to minimize floor space and offers both air and water cooling options.

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**SGI Altix 450.** The SGI Altix 450 combines our NUMAflex architecture with mid-range pricing and packaging to deliver a scalable solution for smaller deployments. SGI Altix 450 systems can scale up to 76 Itanium 2 processors in a single system. These systems have a globally addressable memory range of up to 608 gigabytes.

**Cluster Computing Series.** We offer Xeon-based servers for cluster computing, our mid-range SGI Altix XE and our high-end SGI Altix ICE. These predominantly run the Linux operating system and are targeted at customers seeking a scalable cluster computing solution. We designed these servers for energy efficiency and price/performance benefits. The SGI Altix XE is our value-priced offering and is designed to be a highly reliable cluster system for best bottom line total cost of ownership. The SGI Altix ICE is our cluster offering for high-end customers that seek the price/performance benefits typically seen with traditional clusters but require a highly scalable, performance system.

**SGI Altix XE.** We designed the SGI Altix XE system to serve the needs of end users who do not require the high-end functionality of the SGI Altix ICE system by combining Intel Xeon processors with systems designed for performance and energy efficiency. SGI Altix XE offers value-priced capacity with its competitive price and price/performance ratio. SGI Altix XE servers establish a cluster computing system using industry-standard interconnects. We offer integrated clusters of up to 288 nodes using Infiniband interconnect technology. In addition to being able to run either RedHat or Novell's SUSE Linux, SGI Altix XE systems can run both Microsoft Windows and Microsoft CCS operating systems.

**SGI Altix ICE.** SGI Altix ICE is an integrated blade platform that combines the advanced packaging, power and cooling technology, ease-of-use and high performance system benefits of the SGI Altix 4700 with the competitive price and price/performance benefits of the SGI Altix XE. SGI Altix ICE is designed for scalability, offering high performance, reliability and energy and space efficiency for cluster workloads. We believe that by tightly integrating the blades, switches, storage and interconnects, the system is easier to build and manage. Design features such as cable-free blade enclosures, diskless compute blades, water cooling and a single step transformer decrease failure points, reduce the floor space requirement, improve heat dissipation and reduce energy costs. SGI Altix ICE is available in a single-rack configuration of as few as two nodes and can be scaled to an integrated solution of 1,920 nodes.

**Core Storage Products.** We offer a diverse line of storage products, branded as SGI InfiniteStorage, designed specifically for HPC environments that are experiencing significant growth in the amount, complexity and expense of data required to be stored, accessed, protected and managed. The SGI InfiniteStorage line includes disk systems, ranging from entry-level disk arrays to complex storage systems, in either direct- or fabric-attached configurations, primarily from LSI and DataDirect Networks. These products combine third-party storage subsystems, such as disk arrays and controllers, that we consider to be "best of breed" with one or more of the differentiated software products described below to deliver to our end users scalable, high performance data management solutions. Customers choose the software and hardware elements required to achieve their particular objectives for data access, management and retention.

**Storage Software.** The software in our SGI InfiniteStorage products includes tools that enhance our end users' ability to store, manage and share data for file sharing, hierarchical storage management, backup and recovery.

**SGI InfiniteStorage Shared Filesystem CXFS (CXFS).** CXFS is a shared file system that provides data sharing, enhanced workflow and reduced costs in data-intensive environments by allowing each system on a network to see all data on that network as though it belonged only to that system. CXFS can support multiple operating systems and platforms to enhance productivity in a heterogeneous storage environment. CXFS provides support for very large files, up to nine million



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terabytes, and very large file systems, up to 18 million terabytes. It offers fast data sharing without network mounts or data copies and distributed buffering techniques that provide leading-edge performance. CXFS also includes features for automatic failure detection and recovery.

***SGI InfiniteStorage Data Migration Facility (DMF).*** DMF is a virtualized data management application that migrates files transparently from online storage to near-line storage based on user-defined criteria such as last access and date created, group or owner. This means that the most critical data can reside on higher-performance and more expensive storage media, while less critical data are migrated automatically to less expensive storage media. This approach can improve storage utilization, save on capital investment, reduce operating costs and scale for use in very large systems.

***Storage Architectures.*** Our storage hardware products are designed to address the performance and capacity needs of our end users. Customers choose from one of three basic storage architectures when planning a storage deployment: direct attached storage ( DAS ), network attached storage ( NAS ), and storage area network ( SAN ). In general, DAS is used for the simplest storage deployments where consolidation of storage resources and data sharing are not required. NAS offers intermediate levels of storage consolidation and data sharing and is used for deployments where extremely fast data sharing is not required. SAN offers the highest degree of storage resource consolidation and is used in more complex environments to allow multiple servers to share storage resources. The combination of a SAN and a shared file system can provide the highest performance for a shared data access system. We offer a variety of standard storage interfaces and drive types, including Fibre Channel, Serial Attached SCSI, or SAS, and Serial Advanced Technology Attachment, or SATA, and we determine which standard to incorporate into a system based on the performance, cost and capacity requirements of the end user.

***SGI InfiniteStorage SAN.*** SGI InfiniteStorage SAN products offer shared access to high-performance SAN-based storage supporting heterogeneous clients using Linux, Windows and many UNIX® variants. These products integrate our CXFS shared file system with disk arrays and industry-standard SAN infrastructure to offer the speed of DAS, the data consolidation and aggregation benefits of a traditional SAN and the heterogeneous environment capabilities of NAS. In addition, with CXFS, SGI InfiniteStorage SAN products allow end users to provide concurrent access to a shared pool of data by multiple users. This avoids the need for data replication, which is an inefficient use of available storage resources.

***SGI InfiniteStorage NEXIS NAS.*** The SGI InfiniteStorage NEXIS NAS line includes NAS appliances from entry-point configurations for smaller applications to large NAS configurations capable of serving large HPC systems and clusters. SGI InfiniteStorage NEXIS NAS provides for file management through a single interface, allowing system administrators to deploy their NAS systems quickly. The SGI InfiniteStorage NEXIS NAS products intuitive graphical user interface enables users to view utilization and track performance bottlenecks down to a specific machine.

***SGI InfiniteStorage DAS.*** SGI InfiniteStorage DAS products are storage systems incorporating commodity disks, performance-oriented arrays based on SAS and Fibre Channel drive technologies, streaming high-capacity storage arrays based on SATA drive technology and tape systems for near-line and long-term archival purposes. We incorporate DMF into these systems to facilitate virtualized data management by migrating files transparently between different storage types based on the needs of the end user.

***Core Visualization Products.***



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SGI visualization products empower users to interact with complex data, digital media and other information in a highly intuitive and contextual manner. By delivering information to users in a highly

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understandable and intuitive way, these products enable faster time to decisions across markets ranging from defense-oriented command and control environments to commercially-oriented product design, impact analysis, and business intelligence.

SGI visualization products, branded as SGI Virtu, are powered by best of breed technologies proven in the world's most mission critical environments for over two decades. We package these technologies to create solutions to meet the specific needs of our markets including defense intelligence and national security, manufacturing, biotechnology, energy, digital media, consumer-oriented entertainment and internet providers. Our visualization solutions include software-based offerings, graphics server and workstation platforms, and fully integrated or customized options delivered by our Professional Services organization.

***SGI Virtu VN.*** The SGI Virtu VN graphics solution services end users who need graphics functionality closely coupled with their compute functionality for Performance Visualization in HPC and commercial business applications. The Virtu VN graphics server incorporates the latest Intel and NVIDIA technology to power challenging visualization and graphics needs. The SGI Virtu VN is tightly integrated and tested with SGI Altix XE, SGI Altix ICE, and our InfiniteStorage solutions to provide integrated compute and graphics solutions for our customers.

***SGI Virtu Anywhere Remote Visualization.*** SGI Virtu Anywhere is a software-based solution that enables users to analyze models in a centralized environment and view their simulations remotely. Results can be viewed locally or delivered to any geographic location and virtually any device. For projects with users in multiple locations, users can visualize the same results from different locations as well as the impact of changes on the results in real-time. Users have access to compute power that can process large datasets with increased accuracy, while teams can view and manipulate models in real time. SGI Virtu Anywhere capabilities are offered on our Virtu line of graphics products as well as third party compute and graphics solutions. The solutions are designed and delivered by our Professional Services organization with assistance from our third party partners.

## ***Legacy Systems***

We continue to offer servers and visualization systems based on MIPS processors and the IRIX operating system and associated storage products, although we no longer market them actively to new customers. We offer newly manufactured legacy products and two lines of remarketed products: remanufactured products, which we manufacture with a combination of used and new components; and recertified products, which are only tested not remanufactured. Our legacy systems' products benefit our customers by extending the life of their existing computing environment. These products are particularly useful for end users, such as end users involved in government programs, whose systems have very long usage cycles. It can provide a significant benefit for customers that would incur high costs in connection with upgrading or replacing existing systems. These products also enable us to reuse, rather than dispose of, products that have been previously shipped to customers.

## ***Global Services***

The quality and reliability of our products and our understanding of our customers' technical and business challenges are critical to our success and a key element of the value we deliver. Our global services organization includes our customer support and our professional services organizations. Our customer support organization provides ongoing maintenance and technical support, including contracted maintenance services, hardware installation and removal services, time and materials-based services and spare parts. Our professional services organization provides technology consulting, customer education and third-party products required to complete customer installations. We derive the majority of our professional services revenue from third-party product

sales, which we provide and integrate into customer environments.

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### ***Customer Support***

Our customer support personnel, with an average over 15 years of experience, have deep domain expertise and are located in 28 different countries. The countries with the largest number of customer support personnel are the United States, the United Kingdom, Germany, France, Australia and China. Approximately 60% of our customer support personnel are employed as service support engineers. We offer customer support on a contract or time and materials basis. In addition, customers may also purchase spare parts.

We provide customer support under maintenance contracts, or service agreements, that provide for service beyond our standard warranty. Our customers typically renew their service agreements after the end of the contract period, sometimes for periods of up to ten years or longer. We believe that the quality of our customer support personnel plays an important role in our ability to maintain long-term customer relationships. We have recently launched the Support Solutions Plus program, which leverages our high quality service personnel and strong customer relationships to offer multi-vendor support as a standard service offering.

Customers may purchase customer support programs that include various levels of support and response time. We offer support programs with priority response, remote electronic monitoring to help prevent system downtime and optional enhancements such as on-site support resources. Our priority response service offerings range from telephone and on-site support during standard business hours to 24/7 support with two-hour, on-site hardware response and a six-hour system restoration commitment with a dedicated technical account manager coordinating spare parts support.

In addition to the support services mentioned above, we offer a suite of standardized deployment, implementation and system management services designed to improve customer productivity and minimize network downtime associated with system implementation. Deployment services typically include the installation or relocation of multiple systems and supported peripherals and the integration of a new system into a customer's computing environment, along with associated system and network connectivity testing. We render deployment services pursuant to service agreements typically entered into in connection with a product purchase, with engagements taking anywhere from one day to several weeks to complete.

### ***Professional Services***

Our professional services personnel assist customers in selecting the right solution, implementing it quickly and managing it efficiently. Our customers rely on these solutions to conduct research, utilize and leverage unstructured information, solve complex problems, and manage multi-vendor infrastructures. Getting the best from technology requires a certain level of expertise, often outside a customer's core competencies. We believe the extensive computing and industry knowledge of our professional services personnel differentiates our professional services offerings. Revenue from professional services engagements typically include a significant amount of third-party products, which our professional services personnel install in conjunction with SGI products. Our professional services personnel also provide ongoing consulting and customer education. Our professional services personnel are located in 11 of our largest geographic locations, giving us global reach in response to customer needs.

We offer a broad range of courses for system and network administrators, system maintainers and software developers. With several of our key vendors and partners, including LSI, Novell and Oracle®, we offer classroom and lab-based courses in Linux administration, storage administration, software development and hardware maintenance in four United States locations. We offer courses on a per-class basis and invoice for them upon course delivery. Customers may also purchase customer education credits

to be delivered over a pre-defined period of time, typically 12 months.

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Our consulting services cover customer- and project-specific systems design, integration, configuration, data migration, tuning and optimization and on-site administration all of which are intended to help customers improve the efficiency and utility of their systems. We provide consulting services on a project-by-project basis, with projects taking anywhere from a few days to more than a year, depending on the customer's project timeline and complexity. Our dedicated project teams generally include systems architects, engineers, project managers and industry analysts, including experts in hybrid computing environments, cluster computing systems, centralized network storage integration and software optimization and UNIX-to-Linux conversion. Our professional services personnel have expertise in a broad range of industries and applications, enabling us to address all aspects of typical HPC, visualization and storage system deployment.

## ***Sales and Distribution***

We sell our systems primarily through our direct sales force and, to a lesser extent, through market segment distributors, including system integrators, value-added resellers, master distributors, OEMs and channel partners. Our sales teams consist of sales representative and systems engineers, who are supported by channel and professional services personnel. Our professional services and engineering personnel collaborate with our sales teams in all stages of the sales and integration process, including developing proposals that address the technical requirements of our customers, performing proofs of concept and benchmarking system performance.

We currently have direct sales personnel in 23 countries—the United States, United Kingdom, Germany, Australia, France, China, India, Czech Republic, Canada, Spain, Israel, Netherlands, Brazil, Italy, Sweden, Singapore, Switzerland, Malaysia, Norway, Belgium, Mexico, Austria, and the United Arab Emirates. We augment our sales coverage with indirect coverage via distributor and channel partner arrangements in all countries in which we have a presence, and in approximately 35 additional countries. We are engaged in a multi-year program to further develop additional channel partner relationships in order to improve our indirect sales efforts, expand our customer base and enter new markets. Our direct sales personnel are responsible for managing all direct or indirect sales at specific named accounts and our channel sales personnel are responsible for managing all sales that are not with specific named accounts.

In our largest markets, our sales representatives have a vertical market focus to more effectively leverage their domain expertise. We established direct sales groups to concentrate on the defense and intelligence market, the business intelligence and data analytics market and the industrial and research market. Our industrial and research group primarily focuses on six vertical market segments: weather and climate; physical sciences; life sciences; energy, aerospace and automotive; and media and entertainment. In support of this increased vertical market segment sales focus, we have begun a program to identify typical customer workflows in each vertical market segment in order to configure standard solutions offerings that include our hardware, software, storage and professional services.

We have increased our sales and marketing efforts recently in the industrial and high-performance business intelligence and data analytics markets in an effort to expand our penetration of these markets. We also intend to expand our targeted customer base to include all organizations with performance computing requirements, the largest firms through our direct selling force and the more modest sized regional firms through our channel partners. We are transitioning our channel program to a model that rewards partners that invest significantly in developing expertise and delivering SGI-based solutions. We have created a channel council to increase communication between channel partners and our executive team in order to guide this program.

SGI Solutions Finance, our internal financing arm, works with customers to arrange financing options through lease transactions with third-party financial institutions and assists in the remarketing of off-lease systems.



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No single customer represented 10% or more of our total revenue in fiscal 2008 and fiscal 2006. For the nine months ended June 29, 2007, approximately 12% of total revenue was generated by sales to a single customer. Sales from this transaction were recorded to both the products and global services segments. While our sales to the U.S. government have represented substantially more than 10% of our revenues in each of the last three fiscal years, these sales are made to and through numerous government agencies and to integrators and resellers that work with those agencies. Information regarding revenue and operating profit by reportable segments and revenue from external customers and long-lived assets by geographic region is presented in Note 18 to the consolidated financial statements included in Part II, Item 8 of this Report and in the Management's Discussion and Analysis of Financial Condition and Results of Operations in Part II, Item 7 of this Report.

## ***Marketing***

We use a number of marketing vehicles including industry and customer events, webinars, case studies, independent test results, advertisements and white papers to showcase and demonstrate the capabilities of our systems. Our marketing channels include a mix of product-based activities, leveraging our hardware and software expertise as well as industry-based activities, leveraging our deep understanding of customer challenges and applications. Our marketing team also works with industry experts, analysts and members of the press to generate awareness about our products and services. Using our history and experience in the HPC community, we participate in industry events and issue white papers on technology trends such as power, cooling and system management.

We maintain active programs to encourage independent software development for our systems. Through our global developer program, we provide hardware, software, service and marketing support to attract and retain software developers and maintain and enhance our software product offerings and environment. This program includes over 200 global ISVs, covering all our target market segments. This program provides technical information to ISVs for developing and porting their applications and opportunities for promoting their SGI-based solutions. We also engage in co-marketing activities with many of our ISVs.

We are beginning to develop co-marketing partnerships with major software companies and system integration services organizations that address the high-performance data management market.

Through our global benchmarking center and our solutions center, we provide access to a full range of our server, visualization, and storage hardware and software, integrated in a wide variety of configurations, for application testing, benchmarking and performance tuning by end users. At these centers, our personnel, including our application benchmarking team and domain, algorithm, HPC and facility experts, work with end users to build and optimize large-scale cluster computing systems, conduct proof-of-concept testing and simulate end-user environments. Through these centers, we also provide demonstrations of the standardized SGI workflow solutions that we have developed and are developing for their vertical markets. In addition, our global developer program provides independent software vendors, systems integrators and consultants technical information for developing and porting their applications, as well as access to our online systems to streamline the implementation.

## ***Research and Development***

Our research and development organization includes hardware design engineers, software architects and developers, and storage engineers. We focus our research and development efforts where we believe differentiation from a standard component, product or technology holds the highest potential for increasing our market share. These include shared memory computing system



architecture; integrated system implementation optimized for space, power, performance, reliability and

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usability; the Linux development and operating environment; software to exploit the differentiated features of our computing platforms; and storage software to enable better performance, scalability and ease of management of large amounts of data.

During fiscal 2008, 2007, and 2006, our research and development expenses were approximately \$59 million, \$60 million, and \$84 million, respectively, representing approximately 17% of total revenue in fiscal 2008, 13% in fiscal 2007, and 16% in fiscal 2006. We accept third-party funding, provided the work being funded is consistent with and contributes to our strategic roadmap and as long as we retain the resulting intellectual property.

**System architecture and hardware design.** We have invested significantly in the development of ASICs and interconnect technology in order to create next-generation shared-memory systems. We are currently developing the fifth-generation of our NUMALink interconnect and our next generation NUMAflex architecture is intended to increase substantially the performance and scalability of our single system image shared-memory products, as well as to incorporate hybrid processing elements and provide optimized features to enhance application performance on a cluster computing system. We continue to emphasize scalability, dense packaging, efficient power and cooling, enterprise-class reliability, availability and serviceability features, and strong interoperability in our designs. We expect these design efforts to enable us to introduce products that reach broader market segments.

**Industrial Strength Linux Environment.** Our research and development efforts include the development of software tools and utilities that facilitate more efficient management and operation of our systems as well as enable software applications to run faster on our systems. In addition, we continue to enhance our software development and operating environments and, over time, plan to extend these environments to integrate non-SGI systems into an SGI-managed workflow. We believe our experience in creating and implementing complex systems will benefit our development of new tools. We hope to decrease further the complexity of the Linux environment for management and deployment of large computing systems, with minimal or no performance degradation through our ISLE initiative. ISLE addresses the challenges of system administration, workflow management, application performance and ease of use in Linux hybrid computing environments by establishing a well integrated suite of software to meet the needs of administrators, end users and developers. We believe that ISLE will allow these groups to obtain increased value from their systems through an open and integrated environment, which will include our differentiated software and software available in the open source community.

**Storage.** We develop software for file serving, data management and data archival for petascale environments. We select best-in-class storage hardware, including disk arrays and controllers from OEM suppliers, that meet the particular needs of our customers' applications and environments. Our engineers design software for efficient data access and management of these storage systems and we qualify storage systems ranging from small appliances to enterprise-class storage systems. We strive to tightly integrate the storage software and the hardware systems. We optimize the software we include in our storage solutions for capacity-driven, as well as for performance-driven applications and environments.

## ***Manufacturing***

Our sole manufacturing facility, located in Chippewa Falls, Wisconsin, is responsible for worldwide production, supply-chain management, and order fulfillment. This facility is ISO 9001:2000 certified. Our manufacturing operations involve the on-site assembly and test of high-level subassemblies, subsystems and complete systems, configured to customer specifications. We subject complete systems to environmental and functional testing prior to shipment. Our consolidated worldwide manufacturing operations increases our control over our supply chain and our inventories.



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Our supply base is composed of suppliers that meet our rigorous quality and technology standards. We maximize the use of industry-standard components in our products to reduce cost, and we custom design components where we believe that doing so adds value to the customer. We have established close relationships with key suppliers and work closely with them on new product introduction plans, strategic inventories, and internal and external manufacturing schedules and levels. Consistent with industry practice, we acquire components through a combination of formal purchase orders, supplier contracts, and open orders based on projected demand information. These purchase commitments typically cover our requirements for periods ranging from 30 to 180 days.

## ***Competition***

The server, visualization and storage markets are highly competitive, with rapid technological advances and constantly improving price/performance ratios. These advances and pricing pressures result in frequent product introductions and short product life cycles. We believe that purchasers make buying decisions based on many factors, including:

product quality and reliability;

ease of system management;

application availability;

price/performance ratios;

software functionality;

product features;

total cost of ownership; and

quality customer service and support.

We believe we compete effectively in each of these areas by providing differentiated products and services that address the needs of our customers. However, our largest competitors, such as IBM, Hewlett-Packard, Sun Microsystems, Dell, Network Appliance and EMC, have far greater resources, greater name recognition, larger customer bases and much greater financial, technical, sales and marketing resources. For the largest systems in the supercomputing category, our principal competitor is IBM. We also compete with other systems manufacturers and resellers of systems based on x86 class processors with our SGI Altix XE and SGI Altix ICE product lines. Because a computing system is a substantial investment that can require extensive service and support commitments, our smaller size can have a significant competitive impact. In some instances, the diversified business of our competitors can support very deep discounting to gain market share in the HPC market. Particularly in the storage market, there are many new interests that are competing with us and rapidly introducing new products and technology.

***Proprietary Rights and Licenses***

We currently have issued and have pending approximately 750 U.S. patents, and we intend to continue to protect our inventions with patents in the United States and abroad. We also hold various U.S. and foreign trademarks as well as copyrights in our original software. Although we believe the ownership of patents, copyrights, trademarks and service marks, and trade secrets is an important factor in our business and that our success does depend in part on ownership rights, we rely primarily on the innovative skills, technical competence, and marketing abilities of our personnel to differentiate our products and services within the marketplace.

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As is customary in our industry, we license from third parties a wide range of software, including the LINUX, Microsoft CCS and UNIX operating systems, for internal use and use by our customers. We also license various patents and trade secrets of third parties through agreements such as patent or technology licenses or cross-licenses. In some cases, our intellectual property is licensed to third parties.

Our success will depend in part on our ability to protect our intellectual property portfolio and proprietary information. We are in discussions with several parties regarding the potential use of certain patents and trademarks, which may result in licensing fees, royalties or a one-time settlement. If negotiations are not successful, we may need to litigate. If we were to litigate, we would incur significant costs, litigation may be a significant distraction for our management team, and we might not ultimately prevail. Litigation or changes in the interpretation of intellectual property laws could expand or reduce the extent to which we or our competitors are able to protect intellectual property and could require significant changes in product design. Because of technological changes and the extent of issued patents in our industry, it is possible certain components of our products and business methods may unknowingly infringe existing patents of others. Our industry has seen a substantial increase in litigation with respect to intellectual property matters, and we have been engaged in several intellectual property disputes both as plaintiff and defendant. We expect that we will engage in patent infringement litigation from time to time. See *Risk Factors* .

## ***Seasonality and Backlog***

We do not consider our business to be highly seasonal. Past performance should not be considered a reliable indicator of our future revenues or financial performance.

We use growth in bookings and backlog as significant indicators of the performance of our business. We calculate bookings as the sum of all committed purchase orders for products and professional services deliverable within 12 months, as such bookings do not include the value of committed customer support contracts. We changed our method of calculating bookings in the third quarter of fiscal 2008 to be consistent with industry practices and to align with our material forecast horizon. Previously, we calculated bookings as the sum of all committed purchase orders for products and professional services deliverable within nine months. The cumulative total of all bookings that we have taken that have not yet been recognized as revenue is what we define as backlog. Our consolidated backlog was \$241 million and \$89 million at June 27, 2008 and June 29, 2007, respectively. On a non-GAAP basis, our consolidated backlog was \$147 million and \$66 million at June 27, 2008 and June 29, 2007, respectively.

We generally do not maintain sufficient backlog to meet our quarterly objectives for product revenue without obtaining significant new orders that are booked and shipped within the quarter. Our backlog reflects only orders for which a firm purchase order has been issued or a contract has been made, although orders in backlog are subject to customer cancellation or rescheduling in certain circumstances, and government customers typically have rights of cancellation for convenience. SGI systems have also been selected for a number of multi-year U.S. government programs, with expected purchases that are not reflected in our current backlog. In addition, we may enter into longer delivery-cycle contracts for which a portion of the value is not reflected in our current backlog, since a portion of such orders may be scheduled to ship outside the time provided in our bookings policy. These types of orders generally also require us and our partners to develop and deliver future products, and may be subject to performance guarantees collateralized by letters of credit and additional penalties for delays in delivery or non-performance.