



Sun Blade™ Modular Systems  
**NOT JUST EFFICIENT —  
RADICALLY EFFICIENT**

Open, flexible computing for the datacenter  
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## Introduction

In today's competitive, fast-paced business environment, your IT services must be able to support business growth and agility in a cost-effective manner. As new business requirements arise or transaction volumes increase, your IT solutions must be flexible enough to adapt quickly without requiring large investments or time-consuming upgrades.

In an effort to contain costs and enable flexibility, many IT organizations have turned toward distributed architectures in which applications are deployed on racks of small, inexpensive servers to provide built-in redundancy and enable rapid expansion. However, this approach often results in a sprawling, complex network of systems that consume valuable datacenter floor space, create excessive power and cooling demands, and are costly and difficult to manage.

The burden of managing this complex environment — and providing power and cooling for a growing number of servers in the face of rising energy costs — has many IT managers looking for new options. Research indicates that more than 80 percent of datacenters are constrained by power, cooling, and space limitations. In fact, many large datacenters simply cannot get more power or cooling capacity — even if they can afford it. Government regulations may constrain power resources, or the design of the power and cooling infrastructure in an existing building might not be able to accommodate greater capacity.

## The Need for Open, Flexible Computing

To meet these challenges, IT organizations are focused on finding the most efficient means to increase the performance, availability, and agility of their IT infrastructure. This requires a flexible fabric of interconnected computing resources that provide services, rather than a room filled with individual systems.

Traditional datacenter servers offer limited efficiency and flexibility, because each server contains an entire computing infrastructure. By contrast, a modular computing infrastructure can easily accommodate new technology, pack more computing power into a smaller footprint, scale easily to meet growing business demands, and reap the benefits of investment protection. Sun has designed its family of blade servers with this technology shift in mind.

## The Sun Blade™ Modular Systems Product Line

Sun Blade™ Modular Systems are specifically designed to meet today's requirements for balancing increased performance and greater flexibility with a low-cost solution that can help relieve datacenter capacity constraints. Based on a modular, flexible architecture, Sun Blade systems offer the industry's most open blade platform, combining world-record performance with radical efficiency for your datacenter.

The Sun Blade Modular Systems product line consists of two complementary solutions:

- Sun Blade™ 6000 Modular System
- Sun Blade™ 8000 Modular Systems

The Sun Blade 6000 Modular System is the industry's only open blade architecture that supports SPARC®, AMD Opteron, and Intel® Xeon® processors as well as multiple operating systems. It gives you the flexibility to run virtually any datacenter application while minimizing space and cooling requirements and delivering high service levels for your applications. With a modular design and energy-efficient architecture, you can add computing power on demand — without adding administrative complexity or the costs associated with replacing or reconfiguring traditional rackmounted servers and towers.

Sun Blade 8000 Modular Systems, based on Next Generation AMD Opteron™ processors, are ideal for computing environments that require both fast performance and high I/O throughput in a flexible architecture that supports multiple operating systems. Their modular architecture enables you to deploy applications such as high-performance databases, enterprise business applications, and even high-performance computing (HPC) environments — without arbitrary limitations or compromises. The Sun Blade 8000 P chassis is a specialized configuration of the Sun Blade 8000 Modular System and is designed for high-end compute clusters and grid computing where computing performance is paramount and the need for I/O capacity is less important.

## The Industry's Most Open, Versatile Blade Platform

The open architecture of the Sun Blade systems platform can help you respond quickly to changing business needs, with greater flexibility to expand your IT infrastructure as required. Now you can run any datacenter application while minimizing costs and conserving valuable resources.

With blades based on UltraSPARC® processors with CoolThreads™ technology, you can achieve unmatched throughput for your multithreaded applications and take advantage of industry-leading power and cooling efficiency. Intel Xeon and AMD Opteron processor-based blades are ideal for applications that require massive compute performance or multiple operating systems.

All Sun Blade systems are based on industry-standard components, and Sun is the only major vendor to support true industry-standard I/O modules in a blade platform. Sun Blade I/O modules are hot-pluggable PCIe modules that can be installed or replaced up to 24 times faster than I/O modules in competing blades<sup>1</sup>.

Sun Blade Modular Systems can help you improve service levels for your core datacenter applications while delivering radical efficiency in space, power, and cooling — all at about half the cost of competing blade and rackmount solutions<sup>2</sup>.

In addition, you can maximize your utilization of datacenter real estate by packing more power into 50 percent less space. Sun Blade systems offer up to two times the density of competing rackmount servers, while providing twice the I/O and memory capacity of competing blades and delivering world-record benchmark performance<sup>3</sup>. This superior capacity enhances the scalability and longevity of the systems, providing improved flexibility and investment protection.

The efficiency of Sun Blade systems goes beyond capital investment and power and cooling savings. These systems also offer productivity savings, due to their simplified management and fast, easy deployment. Industry-standard I/O modules and hot-pluggable components are easy to replace and upgrade. And the transparent management architecture enables administrators to increase efficiency by leveraging their existing management tools without having to learn new ones.

## Sun<sup>SM</sup> Refresh Service

Keeping your datacenter running at maximum performance and efficiency requires staying abreast of the latest technology and upgrading or refreshing your datacenter whenever technology advances. Sun<sup>SM</sup> Refresh Service is the industry's first IT system subscription service that enables you to keep your datacenter operating with the latest technology at half the cost of traditional lease-and-refresh offerings. The service enables you to acquire the right amount of computing capacity to serve your needs today, and then take full advantage of the rapid improvements in performance and efficiency to help stay ahead of the competition year after year. The Sun Refresh Service is initially offered in the U.S. and will be rolled out worldwide in the near future.

## Conclusion

The open, versatile approach of Sun Blade systems technology enables you to deliver radical efficiency in your IT infrastructure. Sun's blade solutions can help you to respond quickly to changing business needs and deliver high service levels — all while reducing management costs, conserving datacenter floor space, and reducing your power and cooling costs by up to 15 percent. Sun can help you build a cost-effective IT infrastructure today that also gives you the right foundation to meet the growing business requirements of tomorrow.

For more information on the Sun Blade Modular Systems product line, including product details, how to get started, and special promotions, go to [sun.com/blades](http://sun.com/blades), or talk to your local Sun sales representative.

<sup>1</sup> Sun has directly measured the time it takes to physically insert a new blade and provision it with the Solaris 10 OS: the operation typically takes 30 minutes, once the chassis and rack infrastructure are in place. According to one of HP's own papers, it takes 12 hours to install and provision one of their rackmount servers — which is 24 times as long as it takes with a Sun server. Sun has also previously measured the time taken to physically install a Sun Fire B1600 server vs. a competing rackmount server and found the difference to be the same — a difference of 24 times as long to complete installation. The same ratio should apply to the Sun Blade 8000 Modular System.

<sup>2</sup> For medium configurations with 32 GB memory, one can use lower-cost two-GB DIMMs vs. competitors' more expensive four-GB DIMMs. For the memory-intensive high-end configurations commonly used in consolidation, databases, and some high-performance computing applications, one can configure a lower-cost two-socket, eight-core blade (with more capacity in the future) with 64 GB memory. Competitors must upsell with more expensive four-socket machines, such as the HPG DL585.

<sup>3</sup> SPEC, SPCin, SPECComp, and SPECjbb are registered trademarks of Standard Performance Evaluation Corporation. Results from [www.spec.org](http://www.spec.org) Sun Blade T6300 server module (1.4 GHz UltraSPARC T1, the Solaris 10 OS): 96523 SPECjbb2005 bops and 24131 SPECjbb2005 bops/JVM. Sun Blade X6250 server module (Intel Xeon 5160 Processors, four cores on two chips at two cores/chip, running the Solaris 10 OS): SPECint2006 — 21.0. Sun Blade X6220 server module (two AMD Opteron model 2222SE processors — four cores on two chips, at two cores/chip and four threads, running the Solaris 10 OS): SPECCompM2001 — 13,847.



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