

Sun Fire V20z Server
Just the Facts

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Sun Fire V20z Server



What's New -

1/10/06: Announce End-of-Life for Sun Fire V20z. Last Order Date is April 10, 2006. Last Ship Date is June 30, 2006.

11/08/05: A new slide rail kit that supports 30" deep racks. A 146 GB drive with Solaris 10 pre-installed.

9/13/05: A new RAID PCI-X card with battery backup.

8/23/05: Transition of the A55A-AA and A55D-AA chassis. A new XATO option for a blocking plate enabling non-optical drive configurations.

7/26/05: New Sun StorEdge single channel Ultra320 differential SCSI PCI-X card

7/12/05: Sun Fire V20z K2.5 dual core systems with AMD Opteron 270/275 CPUs. Sun Fire V20z K2.5 single core systems with AMD Opteron 244/248/250 CPUs. Transition of K2 systems with equivalent CPUs speeds.

Introduction

Introduced in February 2004, the Sun Fire V20z server is a 1- to 4-way x64 rack-optimized server powered by AMD's (Advanced Micro Devices) award-winning Opteron™ processors.

Running Solaris™, Linux, and Windows Operating Systems, the Sun Fire V20z

server supports both 32-bit and 64-bit operating systems and applications. With a single architecture, the Sun Fire V20z server offers great flexibility for customers that wish to run existing 32-bit x86 OS and applications, and at the same time, migrate to the next generation 64-bit OS and applications while helping to minimize staff training and support needs.

The Sun Fire V20z is a general-purpose server is designed to be easily managed and deployed in a wide range of architectures:

- Scale-out architectures: With large memory capacity (16 GB), dual Gigabit Ethernet ports and high speed PCI-X expansion slots that enable high speed system interconnects such as fibre channel, Myrinet, and InfiniBand, the Sun Fire V20z server is able to solve complex computing problems.
- Scale-up architectures: With up to 4 cores available, this server is well-suited for database management as well as for deploying web and infrastructure services.
- Scale-within: With its ability to run Solaris 10 Containers and VM Ware, the Sun Fire V20z server is an ideal platform for application consolidation.

The Sun Fire V20z server, when combined with Sun's rich portfolio of software, storage, services and network switches, help reduce cost and complexity while accelerating time-to-revenue for web, app, database and grid applications.

For more information see: <http://www.sun.com/server/entry/v20z>.

Features, Functions, and Benefits

Sun Fire V20z Server Key Features, Functions, and Benefits

Feature	Function	Benefit
Performance		
<ul style="list-style-type: none"> • Up to two AMD Opteron processors, supporting the fastest Model 252(2.6GHz) CPU 	<ul style="list-style-type: none"> • Delivers both 32- and 64-bit enterprise-class computing for increased scalability of computer and applications while not requiring dramatic instruction set changes. 	<ul style="list-style-type: none"> • Increases performance while providing investment protection.
<ul style="list-style-type: none"> • HyperTransport technology and 128-bit wide DDR memory controller 	<ul style="list-style-type: none"> • Reduces latency by pooling memory resources onto a single coherent space. • Provides a high-speed connection between processors and core logic 	<ul style="list-style-type: none"> • Increases performance by eliminating performance bottlenecks found in traditional x86 Front Side Bus (FSB) architecture.
Raising the Bar for Industry Standard Servers with Reliability and Expandability		
<ul style="list-style-type: none"> • Standard 1 RU form factor 	<ul style="list-style-type: none"> • Fits into industry-standard racks to maximize data center space and standardized stack deployments for ISPs. 	<ul style="list-style-type: none"> • Provides investment protection and lowers total cost of ownership.

Feature	Function	Benefit
<ul style="list-style-type: none"> Up to 16 GB (Sun Fire V20z server) of DDR memory with ECC and ChipKill™ 	<ul style="list-style-type: none"> Supports memory-intensive applications and processes. ECC helps to ensure data integrity with automatic error correction in case a single bit is affected by such events as alpha particle hitting a memory cell. ChipKill™ allows a single DRAM chip to fail (not the DIMM just a chip on the DIMM) and the system to continue running. 	<ul style="list-style-type: none"> Allows for deployment of a wide range of applications. Increases memory reliability, helping to reduce the chances of system downtime caused by memory failures.
<ul style="list-style-type: none"> Ultra320 SCSI interface to support up to two hard drives 	<ul style="list-style-type: none"> Offers plenty of disk space for I/O-bound applications and redundancy for mission-critical data. 	<ul style="list-style-type: none"> Increases performance and availability.
<ul style="list-style-type: none"> Dual integrated Gigabit Ethernet 	<ul style="list-style-type: none"> Provides outstanding network I/O performance as well as increased network reliability when installed in failover configurations. 	<ul style="list-style-type: none"> Increases network efficiency, flexibility, and availability.
<ul style="list-style-type: none"> Two 64-bit PCI-X slots 	<ul style="list-style-type: none"> Allows connectivity to additional network, storage, or graphics devices while supporting full CPU path bandwidth. Enables the support of high-bandwidth, low-latency system interconnects such as Myrinet or Infiniband to build horizontally scaled clusters 	<ul style="list-style-type: none"> Enables flexibility to meet evolving business and application requirements. Enables horizontal scaling to achieve low-cost, very high performance super-computers
<ul style="list-style-type: none"> Front and back LEDs 	<ul style="list-style-type: none"> Provides ability to determine at a glance server status (power, fault, etc.) in large data center server clusters. 	<ul style="list-style-type: none"> Increases ease of physical management and serviceability.
Operating System and Management Environments		
<ul style="list-style-type: none"> Multiple OS support (see list further in this document) 	<ul style="list-style-type: none"> Enables customers to run the applications designed to run in specific OS 	<ul style="list-style-type: none"> Customers can use same server hardware to support different applications running in 32-bit or 64-bit OS, and thus lowering IT hardware training and support
<ul style="list-style-type: none"> Integrated service processor with two dedicated 10/100 Ethernet ports 	<ul style="list-style-type: none"> Enables command-line(CLI), IPMI v1.5, or SNMP server management with consolidated IT staff Allows for daisy-chaining of management Ethernet cable in a single rack 	<ul style="list-style-type: none"> Increases manageability options. Provides for ease of cable management for dedicated management Ethernet, lowering support costs

Feature	Function	Benefit
<ul style="list-style-type: none"> Lights Out Management (LOM) 	<ul style="list-style-type: none"> Monitors and reports system and component status, meaning less need for on-site staff. Enables data-driven scripts and SNMP to be used in conjunction with automatic upgrades and failure notifications.* 	<ul style="list-style-type: none"> Increases productivity and availability by allowing remote management via network connections.

Product Family Placement

Although Sun announced a new line of x64-based servers, the Sun Fire V20z and Sun Fire V40z servers still remain in the product lineup along side the Sun Fire X2100, X4100 and X4200 servers. They remain for those customers still requiring support for Solaris 9, HW 04/04, HW 09/04 or SLES 8. The Sun Fire V40z server also remains in the product line for those customers who may require a larger number of CPU cores (up to 8), a larger addressable memory (> 16GB) space, or greater I/O (7 PCI slots) expansion capability than the Sun Fire X4200 server offers.

X64 Server Family Comparison

The following table compares some features of the Sun Fire X2100, Sun Fire X4100, Sun Fire X4200, Sun Fire V20z and Sun Fire V40z servers.

Features	Sun Fire X2100 Server	Sun Fire X4100 Server	Sun Fire X4200 Server	Sun Fire V20z Server	Sun Fire V40z Server
CPU type – AMD Opteron processor	One single- or dual-core (up to 2 cores)	Up to 2 single- or dual-core (up to 4 cores)	Up to 2 single- or dual-core (up to 4 cores)	Up to 2 single- or dual-core (up to 4 cores)	Up to 4 single- or dual-core (up to 8 cores)
CPU speed	146 (2.0 GHz), 148 (2.2 GHz), 152 (2.6 GHz) Dual-Core – 175 (2.2 GHz)	248 (2.2 GHz), 252 (2.6 GHz), 254 (2.8 GHz) Dual-Core – 270 (2.0 GHz), 275 (2.2 GHz), 280 (2.4 GHz), 285 (2.6 GHz)	248 (2.2 GHz), 252 (2.6 GHz), 254 (2.8 GHz) Dual-Core – 270 (2.0 GHz), 275 (2.2 GHz), 280 (2.4 GHz), 285 (2.6 GHz)	244 (1.8 GHz), 248 (2.2 GHz), 250 (2.4 GHz), 252 (2.6 GHz) Dual-Core - 270 (2.0 GHz), 275 (2.2 GHz)	844 (1.8 GHz), 848 (2.2 GHz), 850 (2.4 GHz), 852 (2.6 GHz) Dual-Core - 870 (2.0 GHz), 875 (2.2 GHz), 880 (2.4 GHz)
Level 2 cache	1 MB				
CPU interconnect	1 HyperTransport Link @ 4 GB/s	3 HyperTransport Links @ 4 GB/s per link		3 HyperTransport Links @ 3.2 GB/s per link	3 HyperTransport Links @ 4 GB/s per link

Features	Sun Fire X2100 Server	Sun Fire X4100 Server	Sun Fire X4200 Server	Sun Fire V20z Server	Sun Fire V40z Server
Max. memory - 4 DIMM slots/CPU	4 GB of DDR1/400 unbuffered ECC DIMMs	16 GB of DDR/400 ECC registered DIMMs (32 GB when 4 GB DIMMs are available)		16 GB of DDR/333 or 400 ECC registered DIMMs	32 GB of DDR/333 or 400 ECC registered DIMMs
Graphics Controller	ATI Rage™ XL			None	
Internal HDDs (hot-swappable except for X2100)	Up to two SATA (3.5") hot-pluggable HDDs	Up to two (w/ DVD-ROM) or four (w/o DVD-ROM) SAS (2.5") HDDs	Up to four SAS (2.5") HDDs	Up to two U320 SCSI HDDs	Up to six U320 SCSI HDDs
Integrated RAID	Mirroring, RAID 1	Striping, Mirroring (RAID 0, 1) (LSI SAS 1064)		Mirroring, RAID 1 (LSI 1020)	Mirroring, RAID 1 (LSI 1030)
Network connections	Integrated 2 x Gigabit Ethernet	Integrated 4 x Gigabit Ethernet		Integrated 2 x Gigabit Ethernet	
Removable media	DVD-ROM (optional)	DVD-ROM		CD-ROM/floppy	DVD-ROM/floppy
Expansion Slots	One PCI-Express (8-lane)	Two 64-bit PCI-X MD2 Low Profile (1 at 100 MHz, 1 at 133 MHz)	Five 64-bit PCI-X MD2 Low Profile (1 at 100 MHz, 1 at 133 MHz, 3 at 66 MHz)	Two 64-bit PCI-X (1 at 133 Mhz ¹ , 1 half-length/full height at 66 MHz)	Seven 64-bit PCI-X (4 at 133 Mhz ² , 1 at 100 MHz, 1 half-length/full height at 100 MHz, 1 half-length at 66 MHz)
Service Processor	Optional	Yes			
In-band management	IPMI v1.5	IPMI v2.0 via KCS driver SNMP OS-resident agent		IPMI v1.5 and CLI	
Out-of-band management	IPMI v1.5	IPMI v2.0, DMTF CLI, SNMP- v1, v2c, v3, Web GUI		IPMI v1.5, CLI, SNMP-v1, v2	

Features	Sun Fire X2100 Server	Sun Fire X4100 Server	Sun Fire X4200 Server	Sun Fire V20z Server	Sun Fire V40z Server
Remote management features	Remote power on / off, remote access to BIOS	Remote Keyboard, Video, Mouse (KVM), Video redirection, Remote media functionality, Remote power control remote access to BIOS, remote FRU status, monitoring. Logging, role-based access control		Remote power on / off, remote access to BIOS, remote FRU status	
System management paths	serial port and two system Ethernet ports	A single dedicated management 100BaseT port, system serial port and four system Ethernet ports		Two dedicated management 100BaseT ports for daisy chaining, system serial port and two system Ethernet ports	
RU height	1U	1U	2U	1U	3U
Depth	21.68 in. 550 mm	25.2 in. 640 mm	25.2 in. 640 mm	28.5 in. (724 mm)	29.74 in. (755 mm)
Power supply	Single, 300 W	Redundant, Hot-Swappable 550W each		Single, 465 W	Redundant, Hot-swappable 760 W each
O/S	See http://www.sun.com for latest operating system support for each product				

¹ Note that the Sun Fire V20z server has a BIOS update that reprograms the PCI-X transmit strings to reduce the issues with the 133 MHz PCI-X slot. This is required to resolve the AMD Errata #56 that involves a timing issue at 133 MHz for certain PCI-X cards. However, 4 function PCI-X cards such as the X9273A Quad Gigabit Ethernet card must be deployed/relocated to the 66 MHz slot only. This is a change from the previous deployment in the 133 MHz slot – that is no longer supported. All other PCI-X cards offered by Sun will be still supported in the V20z's 133 MHz slot.

² Note that Sun Fire V40z server has a BIOS update that reprograms the four hot-swap 133 MHz PCI-X slots to run at 100 MHz. This is required to resolve a issue with the AMD Errata #56 that involves a timing issue at 133 MHz for certain PCI-X cards.

Key Messages

The Sun Fire V20z server provides a platform to run new high performance 64-bit applications or to run older 32-bit x86 applications. With support for multiple 32-bit and 64-bit operating systems, Sun addresses customers' need to run their choice of applications using the same hardware architecture, minimizing hardware support costs and IT support training costs. Coupled with base warranty of 3-year, next business day support, the Sun Fire V20z server offers among the best TCO (Total Cost of Ownership) on rack-server deployments for customers.

- **Multiple Operating Systems in a 64-bit Server:** The Sun Fire V20z is the first server from a top tier server vendor that offers certification or support for more than 7 operating systems, including OS that are 32-bit and 64-bit, for 3 different OS architectures (Solaris, Linux, Windows).

- **Investment Protection:** Sun provides customers with the flexibility to build an infrastructure that can scale from low-end to high-end UNIX systems—helping them to protect existing investments in hardware, software and training.
- **Superior System Management:** The Sun Fire V20z server features a dedicated Service Processor (SP) for complete OS independence and maximum availability for system management. Lights Out Management (LOM) with CLI, IPMI, or SNMP integration enables administration from anywhere.
- **World-Class Services:** The Sun Fire V20z server is supported by the world-class Sun Services organization, which provides a wide range of services to help customers reduce cost and complexity, accelerate network deployment, and deliver mobility with security.
- **Sun's "One-Stop Shop":** Customers can buy their x64 and UltraSPARC® server products, software, service, consulting, and training from Sun's "One-Stop Shop." Sun makes it easy and understands secure enterprise network computing.

Target Customers

The Sun Fire V20z server is targeted at customers in Fortune 1000 companies who are evaluating Xeon-based servers for memory-intensive or performance-bound applications, are looking for an easy transition to 64-bit computing, require true lights out management, and are open to the best solution (not bound to Intel solutions).

The Sun Fire V20z server is also targeted at existing Sun customers who are interested in broadening their choice of deployment platforms to 64-bit computing. For those customers considering 64-bit Itanium or PowerPC architecture, the Sun Fire V20z offers much better pricing, similar level of x64 64-bit performance, as well as x86 32-bit software compatibility. Choosing the Sun Fire V20z server would enable the customers to get the best performance, at the lowest prices, and still be able to run their existing x86 32-bit applications as well – these customers would get the best of all worlds.

Target Markets

- Education & Research
- Government, especially Intelligence agencies
- Energy, especially Oil & Gas
- Financial Services
- Manufacturing
- Telecommunications

Target Applications

- High-performance compute clusters
- Web or application serving, especially Java deployment
- Database management, especially grid-type deployment like Oracle 9iRAC or 10g
- Grid computing

Market Value Proposition

- **Performance:** The Sun Fire V20z delivers world-class 64-bit and 32-bit application performance, and can demonstrate superior benchmarks for SPECcpuRate2000, SpecWeb99SSL, SpecjAPPserver2002 as well as other benchmarks.

- **Affordability:** The Sun Fire V20z server presents an affordable, feature rich, full-fledged 64-bit x64 server platform, priced competitively to other 32-bit Xeon based 2P/1U systems.
- **Application Compatibility/Migration:** Because the Sun Fire V20z server runs 32-bit x86 operating systems and applications today, customers can take advantage of improved 32-bit performance enhancements and protect their 32-bit investments while still having the ability to upgrade to x64 64-bit operating systems and applications as needed.
- **Density:** The Sun Fire V20z server is 1 RU, enabling higher-density server deployments to decrease operating costs by more efficiently using existing data center space.
- **Availability:** The Sun Fire V20z server provides an economical approach to deploying services redundantly, with a small footprint and low cost—allowing the servers to be used as a basis for redundantly deploying services for higher availability when compared to competing alternatives.
- **Reliability:** The Sun Fire V20z server provides standard Sun reliability that is well established in the market. Solaris technology provides proven reliability, robustness, and binary compatibility. With Solaris on x64, Sun delivers a trustworthy, universal platform to meet the needs of today's businesses—from small startups to large Fortune 1000 enterprises.

Availability

General availability for the Sun Fire V20z server occurred on May 28, 2004, with Revenue Release occurring on March 18, 2004. EOL announced January 10, 2006 with LOD on April 10, 2006 and LSD on June 30, 2006.

Enabling Technology

Technology Overview

The Sun Fire V20z server is a symmetric, multiprocessor, x64-based, rack-optimized server which has the following system architectural features:

- AMD Opteron processors
- HyperTransport technology
- Lights Out Management with Service Processor

AMD Opteron Processor

The AMD Opteron processor is part of a new computing platform that extends the ubiquitous x86 architecture to accommodate x64 64-bit processing. Formerly known as x86-64, AMD's enhancements to the x86 architecture allow users of laptops, desktops, workstations, and servers operating within a 32-bit architecture to migrate seamlessly to the superior performance of x64 64-bit technology. This approach defines a new class of computing by combining full x86 compatibility, a high-performance 64-bit architecture, and the economics of an industry-standard processor. This new class of computing allows the technology industry to build solutions focused on customer needs while removing barriers to future innovation.

Major enhancements over legacy x86 include:

- Sixteen 64-bit general-purpose integer registers that quadruple the general-purpose register space available to applications and device drivers as compared to x86 systems.
- Sixteen 128-bit XMM registers for enhanced multimedia performance to double the register space of any current SSE/SSE2 implementation.
- A full 64-bit virtual address space with 40 bits of physical memory addressing and 48 bits of virtual addressing that can support systems with up to 256 terabytes of physical memory.
- 64-bit operating systems to provide full, transparent, and simultaneous 32-bit and 64-bit platform application multitasking.
- A 128-bit wide, on-chip DDR memory controller that supports ECC and ChipKill™ technologies provides low-latency memory bandwidth which scales as processors are added.

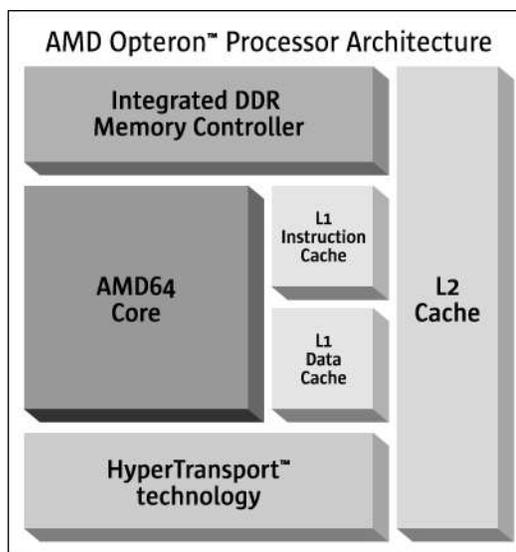


Figure 1. Architecture block diagram for the AMD Opteron

processor

HyperTransport Technology

The AMD Opteron processor with integrated-in HyperTransport technology links provides a scalable bandwidth interconnect among processors, I/O subsystems, and other chipsets.

HyperTransport technology interconnects:

- Help to increase overall system performance by removing I/O bottlenecks and efficiently integrating with legacy buses, increasing bandwidth and speed, and reducing latency of processors.
- Provide up to 6.4GB/sec. bandwidth per link at 16 x 16 bits, 800 MHz operation, providing sufficient bandwidth for supporting new interconnects.

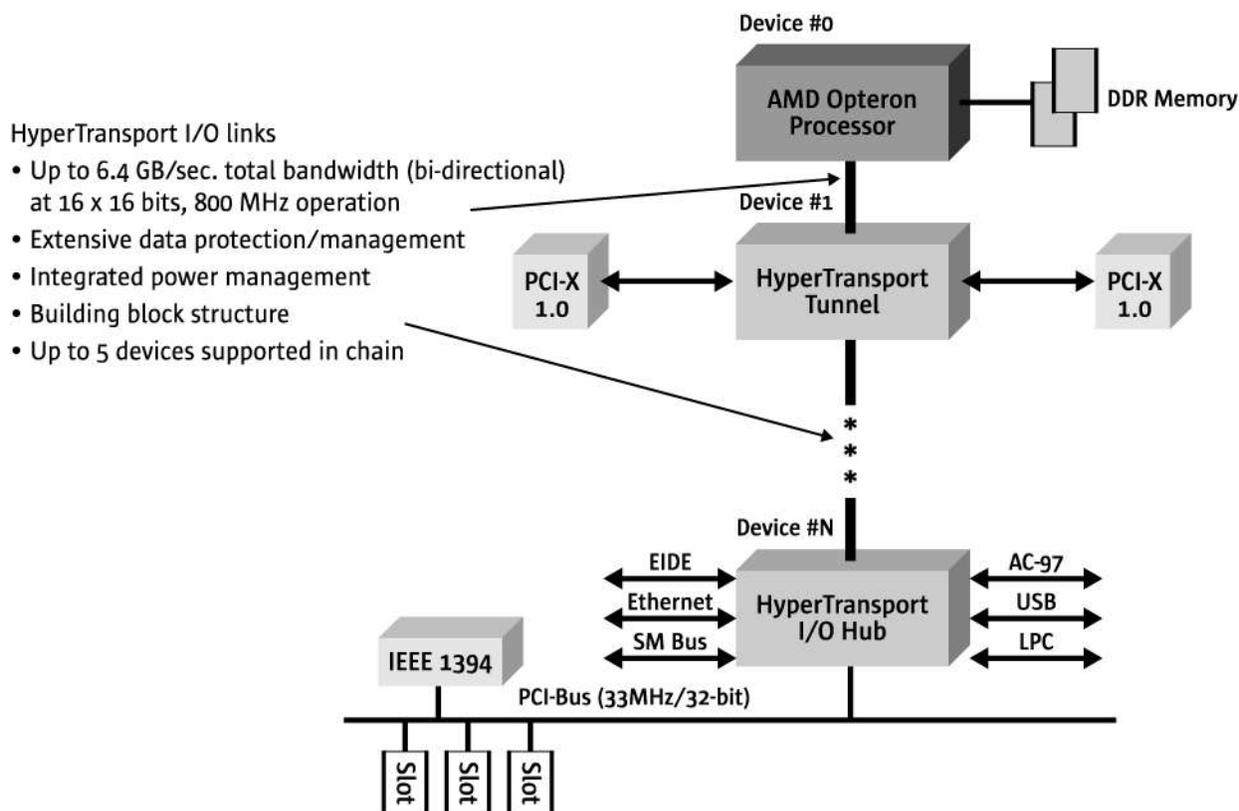


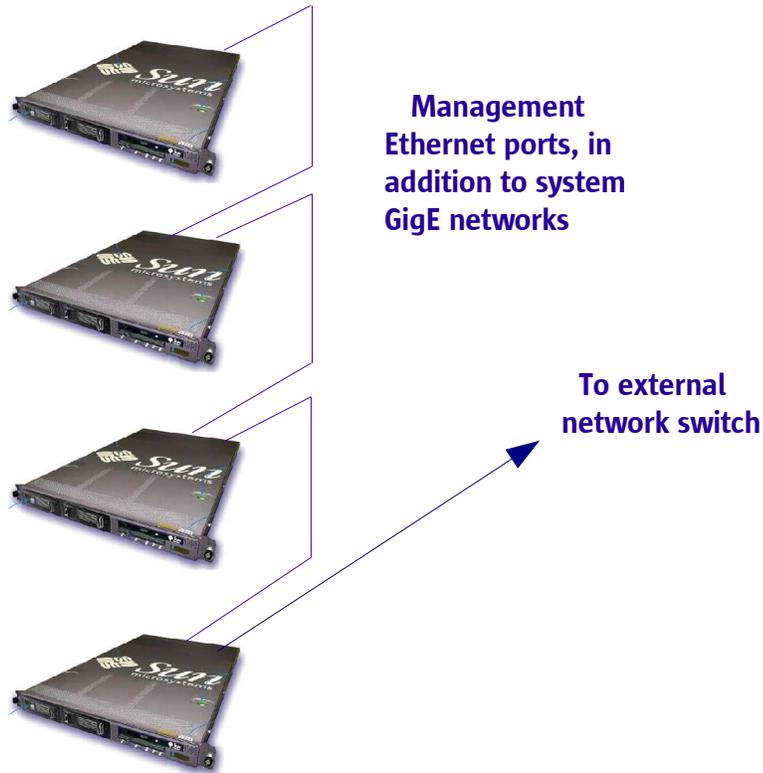
Figure 2. Sample HyperTransport technology interconnect block diagram

Lights-Out-Management (LOM)

Lights-out management (LOM) is achieved using the on-board, separately powered Service Processor (SP) that has its own robust, security hardened OS. Lights Out Management (LOM) provides remote administration via a CLI remote console or SNMP or IPMI v1.5 protocols using the out-of-band management Ethernet, or using in-band communication thru the running main system operating systems. With out-of-band management, the system administrator can remotely power on/off the system, monitor system FRU status, and load operating system software and system firmware. With in-band management, the system administrator can monitor system status and control system power down.

The Service Processor (SP) provides the following functions:

- Extensive control and reporting over environmental, power, hardware and BIOS/OS features
- Remote flash upgrades of system BIOS and service processor software
- Full suite of remote diagnostics that can allow rapid diagnosis and correction
- User configurable serial console accessible via a physical port or re-directed through management network



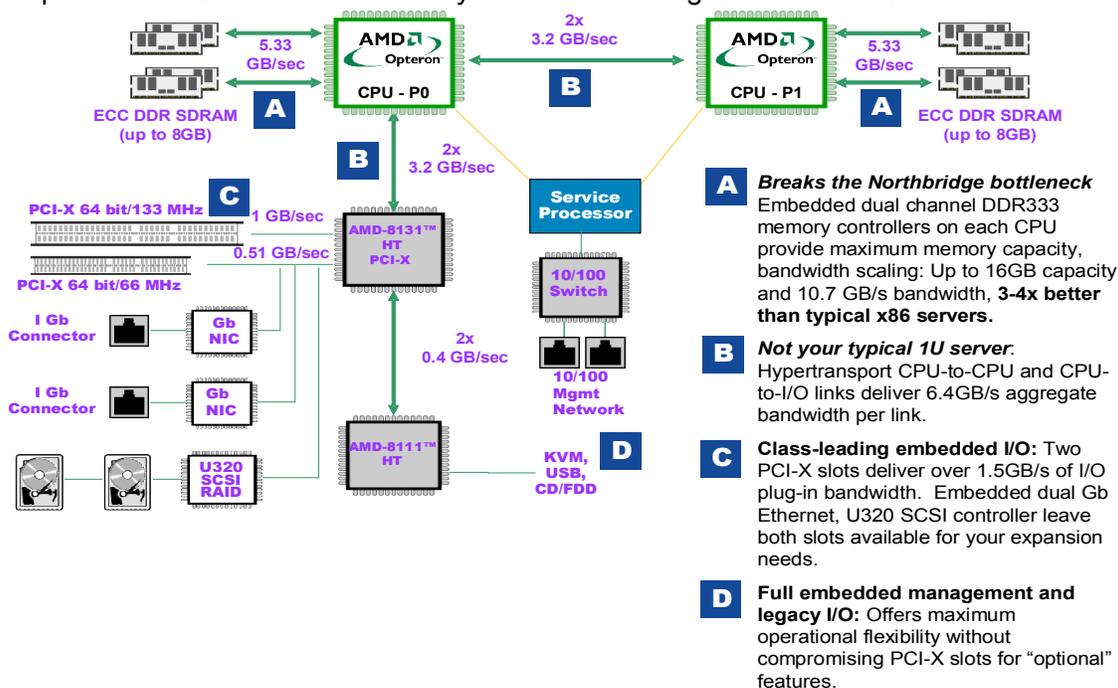
System Architecture

Overview

The Sun Fire V20z server has a very elegant and simple architecture, as shown below. There are 2 AMD Opteron processors, interconnected by a dedicated HyperTransport link. Each processor controls 2 pairs of DIMM slots, with 5.33GB/second access between processor and memory. Through the HyperTransport, each processor can access the other processor's memory. A dual CPU Sun Fire V20z populated with 2GB DIMMs provides up to 16GB of memory. In a system with a single CPU, the processor must be placed into the designated processor slot that connects to the rest of the I/O infrastructure; this processor only has access to 2 pairs of memory slots or maximum of 8GB using 2GB DIMMs. DDR1/333MHz ECC registered memory components (a higher quality version of PC 2700 memory DIMMs) sold by Sun are supported. Configurations announced after 02/15/05 PRESTO support DDR1/400 MHz DIMMs.

A second HyperTransport link on the first processor connects to the AMD-8131 PCI-X bridge, where there are 2 PCI-X channels running at 133MHz/64bit. One of these PCI-X channels is dedicated for full 133MHz/64-bit operation for a full-length/full-height PCI-X expansion card. The second PCI-X channel is split between a half-length/full-height 66MHz/64bit expansion card and 2 on-board Gigabit Ethernet channels and a Ultra320 SCSI channel. The Gigabit Ethernet NICs use a Broadcom controller, while the SCSI channel is controlled by a LSI controller that provides a built-in RAID-1 mirroring feature.

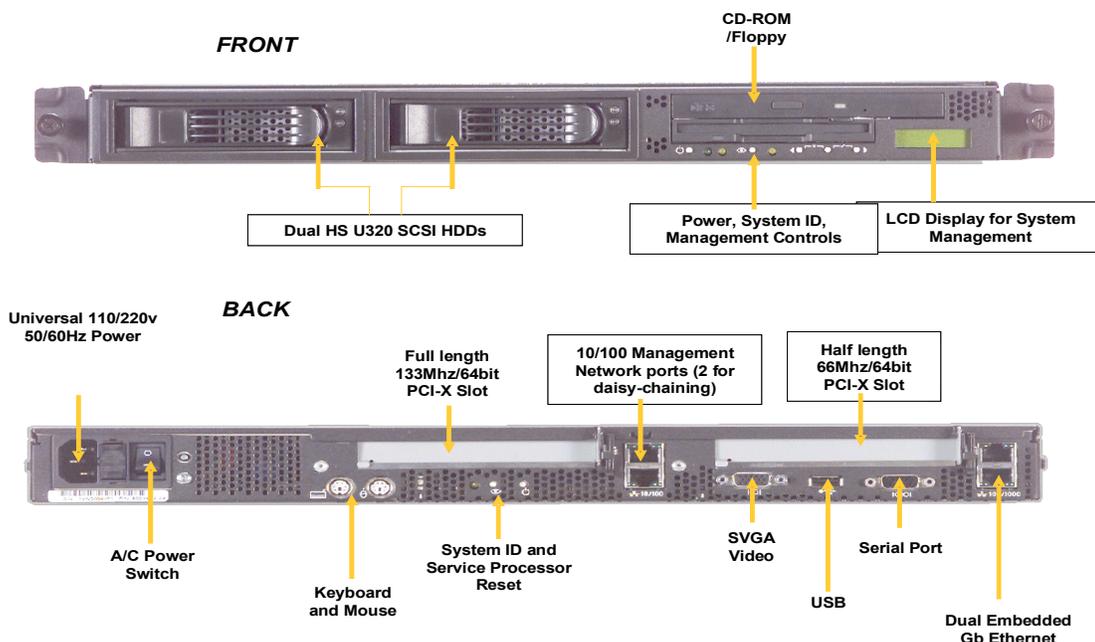
The AMD-8131 bridge also communicates with an AMD-8111 chip via another HyperTransport link. The AMD-8111 HyperTransport I/O hub provides the keyboard and mouse PS/2 connectivity, USB 1.1 connection, an IDE link to the CD or DVD option, as well as a floppy connection. The separately powered Service Processor (LOM) communicates with the 2 main system processors and the rest of the system via a management I²C bus.



Front and Back

The Sun Fire V20z server provides for front access of the Ultra320 SCSI disk drives, as well as the CD or DVD-ROM device and floppy drive. There are some status LEDs up front, as well as system ID switch that, when pushed, light up an LED in the front and the back of the server. In the back of the servers, there are connections for a power cord, a keyboard PS/2 port, a mouse PS/2 port, a video port, a USB 1.1 port, dual Gigabit Ethernet ports, and the dual 10/100 BaseT management Ethernet ports, as well some status LEDs and a system ID switch. In addition, there are also two slots for the PCI-X cards.

Note that LCD in the front panel provides only limited information. Any IP address displayed on the LCD panel is likely to be the IP address of the management service processor (SP), not that of the main system. There are 3 buttons associated with the LCD to provide some local control of the server. See instruction manual for more details.



Reliability, Availability, and Serviceability (RAS)

Reliability

- Simplicity of design with the AMD Opteron processors and HyperTransport requires less components and thus provides higher reliability
- RAID 1 mirroring of the on-board Ultra320 SCSI disks
- ECC memory with ChipKill™ supported

Availability

- The low cost and small form factor of the Sun Fire V20z server allow redundant deployment in a compact space to increase overall service availability.
- Service providers can have a separate service per server and provide more services within the same footprint. This eliminates sharing servers and increases availability if the system goes down—only one server would be affected.
- Built-in dual Gigabit Ethernet ports provide redundancy.

Serviceability

- Front-accessible, hot-swappable drives.
- Indicator LEDs on the front and back of the chassis allow problems to be detected and isolated easily.
- A fault indicator LED stays on following a fault even if the system has been powered off (but still connected to the power source).
- Diagnostic LEDs are included on the motherboard.
- Rear power switch provides easy access.
- Rackmount slide rails for easy installation and removal of a unit are available as an X-option.

Operating System

Sun Fire V20z Server Operating Systems

A world-class performance platform, the 64-bit Sun Fire V20z server allows customers to run the operating system that fits their needs. With a multitude of operating systems fully supported and/or certified, the V20z server provides customers with more choices, within the same hardware architecture, than competing servers in its class. The Sun Fire V20z server provides a high performance hardware platform for multiple 32-bit and 64-bit OS. Below is a table of supported operating systems for the V20z. For the latest information, please see Please see <http://www.sun.com/servers/entry/v40z/os.html>.

Operating Systems		Single core systems	Dual core systems	Factory Pre-installed	Sold by Sun	V20z Support by Sun
Solaris 10 on x64	64-bit	Yes	Yes	Yes	Free	Yes
Solaris 9 9/05 x86 Platform Edition	32-bit	Yes	Yes	Yes	Yes	Yes
Solaris 9 9/04 x86 Platform Edition	32-bit	Yes	No	No	Yes	Yes
Solaris 9 4/04 x86 Platform Edition	32-bit	Yes	No	Yes ¹	Yes	Yes
Red Hat Enterprise Linux 3, U1-4	32-bit/64-bit	Yes	No	No	Yes	Yes
Red Hat Enterprise Linux 3, U5-6	32-bit/64-bit	Yes	Yes	No	Yes	Yes
Red Hat Enterprise Linux 4	32-bit	Yes	No	No	Yes	Yes
Red Hat Enterprise Linux 4, U1	32-bit/64-bit	Yes	Yes	No	Yes	Yes
SUSE Linux Enterprise Server 8 SP 3	64-bit	Yes	No	No	Yes	Yes
SUSE Linux Enterprise Server 9 SP 1	64-bit	Yes	Yes	No	Yes	Yes
SUSE Linux Enterprise Server 9 SP 2	64-bit	Yes	Yes	No	Yes	Yes
VMware ESX Server 2.5.2		Yes	Yes	No	No	No
VMware ESX Server 2.5.1		Yes	Pending	No	No	No
VMware ESX Server 2.5		Yes	Pending	No	No	No
Windows Server 2003, Enterprise, Standard and Web Editions	32-bit	Yes	Pending	No	No	No
Windows Server 2003, Enterprise and Standard x64 Editions	64-bit	Yes	Yes	No	No	No
Windows 2000 Advanced Server	32-bit	Yes	No	No	No	No
Windows 2000 Server	32-bit	Yes	No	No	No	No

1. Solaris 9 HW 4/04 OS, x86 Platform Edition is available pre-installed using an External Assemble To Order (XATO) option. This provides the ability to configure a Sun Fire V20z and Java Enterprise System with the customer's exact specifications and deliver with a pre-installed Solaris 9 HW OS, x86 Platform Edition image on the internal disk. This option will also include the appropriate Solaris Right-To-Use license. The Java Enterprise System will be an evaluation copy and require a separately purchased Right-To-Use license beyond the evaluation period.

Solaris™ 10 Operating System – In a Class By Itself

Key Messaging

In a class by itself, the Solaris Operating System is a significant leap forward from the Solaris 9 OS, establishing it in a class by itself when compared to competing operating systems. It offers many innovative technologies that fundamentally change the equation for organizations needing to reduce costs, reduce complexity, and minimize risk. The new features in the Solaris 10 OS bring mainframe-quality software to even the smallest single-processor servers and provide a stepping stone into tomorrow's data center.

For CIOs and Line of Business Managers who are dissatisfied with high infrastructure costs and security vulnerabilities in their workgroup server environments, the Solaris 10 OS on x64 brings a proven, enterprise-class OS at 1/11th the cost of Microsoft and 20-60% off the cost of Red Hat over three years. The Solaris 10 OS is designed to help organizations optimize system utilization levels, deliver extreme performance and provide unparalleled security – all with relentless, around-the-clock availability.

- **Optimal Utilization** of computing systems is a priority for IT managers where server consolidation is a common approach and is improved in the Solaris environment by:
 - **Solaris Containers** enable as much a 4x increase in system utilization by making it possible to efficiently and securely support thousands of applications per system. Highly configurable, Solaris Containers can dynamically adjust system resources to business goals within and across Containers with the added benefit of isolating applications from each other and from system faults, so a problem in one application cannot affect the system or other applications.
 - **Solaris ZFS File System** (zetabyte file system) integrates devices, storage, and file systems structures into a single structure, simplifying file system management and providing a reliable and flexible solution that can help reduce cost, complexity, and risk.
- **Extreme Performance** is delivered with optimization for the latest UltraSparc™, AMD Opteron™ and Intel Xeon™ processors as well as:
 - **DTrace**, designed for use live use in production situations, is a powerful tool for analyzing and diagnosing elusive problems and increasing system performance. It is non-invasive and has no system overhead when not in use, but with its pervasive coverage, root cause for intermittent system problems can be found quickly and performance gains in real-world applications have been optimized to run as much as 30 times faster.
 - **A Unified TCP/IP Stack** where the TCP and IP layers are partially merged, delivers a 30- to 50-percent improvement in network throughput with a 10- to 15-percent lower CPU load than previous Solaris OS versions.
- **Unparalleled Security** continues to be a focus as Solaris 10 adds significant features that can help defend against attacks by preventing unauthorized access to data and applications with:

- **Process Rights Management** replaces the traditional UNIX “all or nothing” root mechanism with a fine-grained set of privileges for control over the resources and objects that processes can manipulate.
- **Solaris Cryptographic Framework** secures data flows by providing a set of programming interfaces for application-level and kernel-level cryptographic operations, allowing developers to utilize highly optimized cryptographic algorithms and providing transparent access to the same hardware encryption acceleration devices used by the operating system kernel.
- **Relentless Availability** – Expected in a Solaris environment, predictive self-healing technologies provide new levels of application availability with:
 - **Solaris Fault Manager** proactively handles system problems by removing components before failure. CPU, memory and I/O problems are diagnosed and corrected – before they can cause downtime.
 - **Solaris Service Manager** manages application software running on the system, monitoring applications and restarting entire application trees if necessary.

Compatibility

- **Same OS—Low-End to High-End Systems.** The Solaris OS is built from a single source base and optimized to run on multiple platforms, providing customers with the same best of breed OS on SPARC, Opteron AMD64 64-bit, and x86 32-bit platforms.
- **Solaris Application Guarantee Program.** This program guarantees binary compatibility between versions of Solaris on each platform and has been extended to include source code compatibility as well.
- **Linux Compatibility.** With unwavering support for interoperability and open standards, and a commitment to delivering customer choice, Sun has made Linux interoperability a high priority.
 - **Six Key Linux Libraries included in Solaris are:** Glib, Gtk+, JPEG, PNG, TIFF, and XML2
 - **Hundreds of Linux applications and libraries** are provided with the Solaris OS including the GNOME desktop.
 - **Solaris Linux Application Environment** allows Linux applications to run unchanged on the Solaris OS when coupled with a Linux distribution.
 - **Linux Compatibility Assurance Toolkit (LinCat)** helps to simplify the process of porting Linux applications to run natively on the Solaris OS.

Support

- Sun provides full services and support for the Solaris OS (x86 Platform Edition) on Sun and third party-certified systems.

Pricing

Solaris 10 is free to end-users with registration and is available via free download. Media kits are available for purchase.

Linux - Complementing Sun's Solaris Strategy

Key Messaging

Sun, the #1 systems provider, brings a Comprehensive Systems Approach to Linux--providing customers with a full Linux solution of hardware, OS choice with Sun's value added Java Enterprise System, Java Desktop System, tools, and services. Sun enhances standard Linux distributions with an integrated systems offering that includes fully supported OS, x64 rack-mount servers, and the Java Enterprise System that simplifies platform support for customers and partners. Sun brings added value to the system offering with faster, low-cost hardware which is the primary concern for most Linux customers seeking cost-sensitive server alternatives.

- **Choice and Platform Neutrality – “The right tool for the right job”**

Customers can choose the OS platform to best meet their server to desktop computing needs.

- With Sun's Java Enterprise System for Linux, customers can standardize on a set of Java-based network services across their heterogeneous infrastructure.
- A growing line of Sun and third-party Intel Xeon and AMD Opteron-based servers allows Linux customers to scale to 64-bit computing.

- **Systems Approach - Simplified Operations - One-Stop Linux Support**

Sun brings a complete systems approach to Linux: a value-added web services stack for the entire system, hardware, OS, tools, and applications backed by Sun's global support infrastructure.

- Delivering Linux--from leading vendors (Red Hat and SUSE Linux)--with front-line support and training worldwide from Sun on x64 (Xeon and Opteron) hardware platforms from Sun and third parties.
- Selling the simplest and most comprehensive middleware & web services offering with Java Enterprise System.

- **Optimized Java – Java Everywhere – Broaden the reach of Java investments**

- Sun is focused on maximizing Java performance benefits and stretching customers' application investments by creating a common application engine.
- Linux and Java platform integration - Alliances with Red Hat and SUSE Linux to distribute Sun's latest Java Virtual Machine (JVM) included as part of the OS distributions. (The JVM technology allows the Java 2 Platform to host applications on any computer or operating system without rewrite or recompile).

Pricing

Linux is available for the Sun Fire V20z at additional charge.

Support

All levels of support provide access to either Red Hat Network or SUSE's Linux Portal. During the support period, if any new versions of SLES or RHEL for AMD64 are made available, users with current support entitlements have access to those new versions from the maintenance sites of Red Hat and SUSE.

Sun Fire V20z Server

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Subscriptions are available with or without media (CDs, manuals). This provides customers the flexibility to purchase Enterprise Linux in the most efficient manner to match their individual requirements.

“Designed for Windows” Certification

To ensure investment protection and to provide customers with the option to install an alternative OS if they choose to do so, the Sun Fire V20z server is certified under the “Designed for Windows” program to run the Microsoft Windows 2000 Server and Windows Server 2003 Enterprise Edition operating systems. For more information about this alternative, visit :

<http://www.microsoft.com/windows/catalog/server/default.aspx?subID=22&xslt=hardwarehome>

Click “Servers” on the left most side of screen, then “Server” (not Datacenter). Enter “Sun Fire” in search field to see the available Sun Fire server Windows certifications.

Support

While the Sun Fire V20z is certified to support these Windows server operating systems, software and support are provided by 3rd parties only. The certification encompasses the base server hardware with the supported CPU and memory.

Microsoft Windows Device Drivers

Microsoft Windows 2000/2003 device drivers for Sun Fire V20z can be obtained from Sun at:

<http://www.sun.com/v20z/downloads.html>

Installation Data

Processor Options

Processor	One or two AMD Opteron Processor 200 Series (242, 244, 248, 250,252) (242 – 1.6 GHz) (244 – 1.8 GHz) (248 – 2.2 GHz) (250 – 2.4 GHz) (252 – 2.6 GHz) Dual core: (270 – 2.0 GHz) (275 – 2.2 GHz)
Cache	1 MB Level 2

Main Memory

4 DIMM slots per processor, DDR1/333 ECC registered DIMMs (128 bit plus ECC databus), total 8 DIMM slots. Selected new systems introduced after 2/15/05 (with system part numbers A55*M or A55E-AA based) can use DDR1/400 ECC registered DIMMs as well. (see limitations in “XATO Option configurations for memory, disk, and CPU” section)
System configurations from 1 GB up to 16 GB(maximum of 8GB for single CPU systems)

Standard/Integrated Interfaces

Network	Two 10/100/1000Base-T Ethernet ports
Network management	One dedicated 10/100Base-T Ethernet port with integrated 2 ports switch for daisy-chaining
Serial	One TIA/EIA-232-F asynchronous RJ45 Port
SCSI	Single Ultra320 SCSI interface, internal access only. No external SCSI port.
USB	One USB 1.1 port
Expansion bus	Two internal PCI-X slots (one full-length/full-height at 64-bit/133 MHz, one half-length/full-height at 64-bit/66 MHz)

Mass Storage and Media

Internal disk	Up to two hot-swap Ultra320 SCSI disks
Internal DVD or CD-ROM	One Slim-line ATAPI CD or DVD-ROM
External disk	See “ External Storage configurations and Options ” section

Software

Operating environment	See “Sun Fire V20z Server Operating System” section
Java Enterprise System 3	Solaris 10 on x64, Solaris 9 Operating System (x86 Platform Edition) Standard Linux distributions
Languages	C/C++, FORTRAN [Solaris on x64] planned for Q3FY04], Java programming language, all other standard Sun-supported languages

Networking	ONC™, ONC+, NFS, WebNFS, TCP/IP, SunLink™, OSI, MHS, IPX™/SPX, SMB technologies, and XML
Management	Command Line over SSH (in-band and out-of-band), IPMI 1.5 (in-band and out-of-band), SNMP (out-of-band only)

Power Supplies

One power supply	
Maximum DC Output	415 W

Environment

AC power	90–264 V AC (47–63 Hz)
Operating temperature (single, non-rack system)	5° C to 35° C (41° F to 95° F), 10% to 90% relative humidity, non-condensing, 27° C max wet bulb
Nonoperating temperature (single, non-rack system)	-40° C to 65° C (-40° F to 149° F), up to 93% relative humidity, non-condensing, 38° C max wet bulb
Altitude (operating) (single, non-rack system)	Up to 3000 m, maximum ambient temperature is derated by 1° C per 500 m above 500 m
Altitude (nonoperating) (single, non-rack system)	Up to 12000 m
Acoustic noise (single, non-rack system)	Less than 6.7B sound power in ambient temperature of up to 24C.

Regulations

Meets or exceeds the following requirements:	
Safety	IEC60950, UL/CSA60950, EN60950
RFI/EMI	FCC Class A, Part 15 47 CFR, EN55022, CISPR 22
Immunity	EN55024
Certifications Safety EMC	cULus Mark, TUV GS Mark, CE Mark, CCC, GOST, S-Mark CE Mark (93/68/EEC), FCC authorized Class A, VCCI, BSMI, CTICK,, ICES, CCC, GOST

Dimensions and Weight

Chassis	
Height	43 mm (1.69 in.)
Width	430 mm (16.94 in.)
Depth	724 mm (28.5 in.)
Weight (with packaging)	16 kg (35 lb.) maximum

System Requirements, Configuration and Management

System Requirements

The Sun Fire V20z server runs the Solaris Operating System on x64 as well as standard Linux distributions and Microsoft Windows 2000 and Microsoft Server 2003.

System Configuration

The Sun Fire V20z server has the following standard components:

- U to 2 AMD Opteron Processor 200 Series single core (242, 244, 248, 250, or 252) or dual core (270 and 275)
- DDR1/333 MHz Registered ECC DIMMS - Up to 8 GB (1 CPU system) or 16 GB (2 CPU system) main memory
- DDR1/400 MHz Registered ECC DIMMS - Up to 8 GB (1 CPU system) or 16 GB (2 CPU system) main memory with BIOS release 1.33.5.2 (NSV 2.3.0.11a) or later.
- AC power supply
- Two 64-bit PCI-X slots (1 full-length/full-height supporting 133MHz, 1 half-length/full height supporting 66MHz)
- Two disk drive bays
- Selected systems after 02/15/05 have Solaris 10 on x64 preinstalled with Java Enterprise 3 (evaluation copy).
- One USB port
- Two 10/100/1000Base-T Ethernet ports
- Lights Out Management (LOM) with two dedicated 10/100BaseT Ethernet ports
- 19-inch rack-mount kits for both 28" and 30" deep racks (optional)

For list of support OS versions, please refer to section "Sun Fire V20z Server Operating Systems Support "

Licensing/Usage

The Sun Fire V20z server can be ordered either with the Solaris 9 OS (x86 Platform Edition) server license or Linux from Sun. Solaris 10 on x64 RTU is given when the system is registered with Sun. Windows must be purchased from Microsoft or their partners/resellers.

MTBF Information

The MTBF (Mean Time Between Failure) for the Sun Fire V20z server varies depending upon configuration. Operating at 35° C, the MTBF is predicted by calculations to be up to 28,000 hours.

BTU information

Sun Fire V20z with two AMD Opteron 248 CPUs (2.2 GHz) were measured at:
320 watts - 1100 BTUs per hour with 35 cu ft/min. cooling

Rack Mounting

The Sun Fire V20z server is 1.69 inches (43 mm) high, 16.94 inches (430 mm) wide and 28.5 inches (724 mm) deep. The air-flow direction is from front to back. I/O ports are located on the rear panels. Informational LEDs are located on the front panel as well on an LCD panel for service processor (SP) configuration. Access to the power connection is at the rear of the chassis.

The optional slide rail kit, X9267A, is a 4-point mounted slide rail kit only. It is designed to enable Sun Fire V20z servers to be racked in a Sun Rack 900 and 3rd party EIA 310D compliant racks which have mounting depths of 27-30 inches.

The optional slide rail kit, X3894A, is a 4-point mounted slide rail kit only. It is designed to enable Sun Fire V20z servers to be racked in 30" deep third party racks.

Both slide rail kits include hardware that enables mounting to any of the following types of rack rails:

- 6 mm threaded holes
- #10-32 threaded holes
- #10 clearance holes

Please note that not all 3rd party racks meet these parameters and are not compatible with these slide rail kits. The slides are useable on racks with a rail-to-rail spacing of 26.88-30.63 inches. It is recommended that only Sun Rack 900 or Sun Rack 1000 be used with these rail kits.

The Sun Fire V20z is not supported in the StorEdge (Delorean) rack. These racks were never designed to provide the power consumption of this class of server, thus there are power distribution limitations as it relates to the hosting of 32 - Sun Fire V20z.

Some third-party rack vendors do not support a completely filled rack with this type of server, due to the amount of power required and heat produced. See the section "System Management-> MTBF/BTU information" for more information.

Rack Density

Up to 32 Sun Fire V20z servers have been qualified in a Sun Rack 1000-38. The operational environmental range is as follows:

Temperature/Altitude for **Unit-Level:** 35 *C at 0 m and a derating of 1 *C for every 300 m in altitude up to 3000 m maximum.

Temperature/Altitude for **Rack-Level:** 30 *C at 0 m and a derating of 1 *C for every 300 m in altitude up to 3000 m maximum.

Performance Benchmarks—Reference

Public benchmark information available at: <http://www.sun.com/v20z/benchmarks.html>

Origin statement

The Sun Fire V20z has components from various countries of origin. The motherboard is manufactured in the USA. The power supply/chassis are manufactured in China. The commodity parts such as disk drivers, memory, and CPU come from a variety of countries.

Final system assembly is performed in Guadalajara, Mexico.

Hardware Global compliance

Hardware Global compliance for this product complies with the guidelines as specified for hardware at: <http://global.sfbay/compliance/i18nl10nbigrules.html>

The localized documents will be located at:

http://www.sun.com/products-n-solutions/hardware/docs/Servers/Workgroup_Servers/Sun_Fire_V20z/index.html

AMD Errata #56

A rare condition exists on Sun Fire V20z/V40z systems with the AMD 8131 chipset whereby data integrity could be adversely affected.

Note: AMD has issued "Errata #56" detailing this condition, available at:

http://www.amd.com/us-en/assets/content_type/white_papers_and_tech_docs/26310.pdf.

Contributing Factors

This issue can occur on the following platform:

- Sun Fire V20z/V40z without NSV (BIOS Update) version 2.1.0.16 (NSV bundles)

Note: This condition affects PCI-X cards in 133 MHz slots only.

Symptoms

Stale data can be delivered to a PCI-X card running at 133 MHz via split completion cycles. There are no visible indications that this condition has occurred.

Resolution:

This issue is addressed on the following platform:

- Sun Fire V20z/V40z with NSV (BIOS Update) version 2.1.0.16 (NSV bundles)

This BIOS update can be downloaded from:

<http://www.sun.com/software/download/products/416df7a5.html>.

Note: Sun is providing this BIOS solution (as recommended by AMD) to resolve this issue for high-speed 1, 2, or 3 function PCI-X cards. Sun Fire V20z systems will need to use the 66 MHz slot when utilizing either "4-function" PCI-X cards or 133 MHz cards. "4-function" PCI-X cards (such as Sun's X9273A Gigabit Quad Ethernet card) are not addressed by this BIOS update. Sun does not recommend or support a "4-function" PCI-X card in a 133 MHz slot (one slot in Sun Fire V20z, four slots in Sun Fire V40z). Note that 4 function PCI cards run at a maximum of 66 MHz and can run in any PCI-X slot. They are not affected by AMD Errata #56.

Sun Alert ID: 57680

<http://classic.sunsolve.sun.com/pub-cgi/retrieve.pl?doc=fsalert%2F57680>

IPMItool for Solaris

Both Solaris SPARC x86 packages for ipmitool 1.6.0 are at:

http://sourceforge.net/project/showfiles.php?group_id=95200&package_id=101411&release_id=267131

They are also available internally with a link to Solaris on x64 KCS driver at:

<http://webhome.sfbay/duncan/ipmitool/1.6.0/>

The Sun Fire V20z resource CD includes a version of ipmitool (and the ipmi driver) for Solaris on x64. For Solaris 10 ipmitool 1.5.9 will be included with the OS.

Sun Cluster Support

For more information, please go to:

<http://suncluster.eng.sun.com/>

Ordering Information

Current Sun Fire V20z Server Factory Standard Configurations:

Part Number	Description	Availability
A55-PFB2-1-8GRA5M	1U, 2xAMD Model 275 dual core processor, 8G (4x2GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-PYB2-1-4GRA5M	1U, 2xAMD Model 270 dual core processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply,, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NGB2-1-4GRA5M	1U, 2xAMD Model 252 processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply	02/15/05 EOL 01/10/06
A55-NZB2-1-4GRA5M	1U, 2xAMD Model 250 processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply , Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NZB2-1-2GRA5M	1U, 2xAMD Model 250 processor, 2GB(4x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NFB2-1-2GRA5M	1U, 2xAMD Model 248 processor, 2GB(4x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NWB1-1-1GRA5M	1U, 1xAMD Model 244 processor, 1GB(2x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06

Current Sun Fire V20z Server CRS Systems:

The CRS systems are “Customer Ready Systems” that are custom-built by the CRS team. These systems are identical to their Standard configuration counterparts, but require CRS-specific part numbers in order for the factory to build them.

CRS Part Number	Description	Availability
A55-PFB218GRA5M-IP	1U, 2xAMD Model 275 dual core processor, 8G (4x2GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-PYB214GRA5M-IP	1U, 2xAMD Model 270 dual core processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply,, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NGB214GRA5M-IP	1U, 2xAMD Model 252 processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply	02/15/0505 EOL 01/10/06

CRS Part Number	Description	Availability
A55-NZB214GRA5M-IP	1U, 2xAMD Model 250 processor, 4GB(4x1GB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply , Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NZB212GRA5M-IP	1U, 2xAMD Model 250 processor, 2GB(4x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NFB212GRA5M-IP	1U, 2xAMD Model 248 processor, 2GB(4x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06
A55-NWB111GRA5M-IP	1U, 1xAMD Model 244 processor, 1GB(2x512MB DDR/400), 73GB-10K RPM HDD, CD-ROM/Floppy, 1 Power Supply, Solaris 10/JavaES 3 Pre-installed, Std. Config, K2.5	07/12/05 EOL 01/10/06

Sun Fire V20z Server XATO Chassis Option:

Part Number	Description	Availability
A55E-AA	V20z K 2.5 Base Chassis , motherboard, power supply, support for AMD 252 processor, Solaris 10 on x64 pre-installed.	02/15/0505 01/10/06
A55D-AA	V20z Base Chassis, motherboard, power supply, must be used when ordering the A55*L systems announced since 12/07/04 but prior to 2/15/05. This is for customers that want to keep the system types consistent (using same CPU X-options/XATO options)	12/07/04 EOL 08/23/05
A55B-AA	V20z Base Chassis, motherboard, power supply, must be used when ordering original system announced since 7/13/2004, but prior to 12/07/04. This is for customers that want to keep the system types consistent (using same CPU X-options/XATO options)	07/13/04 EOL 07/13/05
A55A-AA	V20z Base Chassis	RR EOL 08/23/05

Due to regulatory requirements of other countries, Sun Fire V20z Server Standard Configurations and XATO Chassis options are required to bundle their power cord separately. These are shippable anywhere in the world.

Each Geography must select their specific Country Power cord kit as listed in table to be included with each system or chassis.

Part Number	Description
X311L	(US/Asia (except China) Localized power cord kit
X312E	(China) Localized power cord kit
X312L	(Continental Europe) Localized power cord kit

Part Number	Description
X314L	(Switzerland) Localized power cord kit
X317L	(U.K.) Localized power cord kit
X332A	(Taiwan) Localized power cord kit
X383L	(Danish) Localized power cord kit
X384L	(Italian) Localized power cord kit
X386L	(Australian) Localized power cord kit
X312F	(Argentina) Localized power cord kit
X312G	(Korean) Localised power cord kit

Sun Fire V20z Server (X)ATO Options:

The following part numbers are available as X-, XATO, and CRS options as noted for the Sun Fire V20z Server:

X-Option	XATO	CRS	Description	Availability
X3794A		3794A-IP	Slide rail kit for Sun Fire V20z and V40z. Fits Sun and selected third-party racks. Replaces X9267A.	RR/GA 11/01/05 EMEA EOL- 01/10/06
X9267A	9267A		Slide Rail kit, Sun Fire V20z (replaces (X)9274A) – required for rack-mounting	EOL- 11/22/05
X7240A	7240A		AMD Opteron 270 CPU for Sun Fire V20z. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis	EOL- 01/10/06
X7241A	7241A		AMD Opteron 275 CPU for Sun Fire V20z. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis.	EOL- 01/10/06
X9242A	9242A		AMD Opteron 242 CPU (1.6 GHz) Not compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis.	EOL- 07/12/05
X9244A	9244A		AMD Opteron 244 CPU (1.8 GHz) Not compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis. Use X9835A for those parts	EOL- 07/12/05
X9248A	9248A		AMD Opteron 248 CPU (2.2 GHz) Not compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis. Use X9836A for those systems.)	EOL- 07/12/05

X-Option	XATO	CRS	Description	Avail-ability
9250A	9250A		AMD Opteron 250 CPU (2.4 GHz) Not compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis. Use X9837A for those parts.)	EOL-07/12/05
X9835A	9835A		AMD Opteron 244 CPU (1.8 GHz) Only compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis.	EOL-07/12/05
X9836A	9836A		AMD Opteron 248 CPU (2.2 GHz) Only compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis.	EOL-07/12/05
X9837A	9837A		AMD Opteron 250CPU (2.4Ghz) Only compatible with A55 system part numbers ending in L,LDE,L-DE,L-E,LE, and A55D-AA XATO chassis.	EOL-07/12/05
X9855A	9855A		AMD Opteron 244 CPU for Sun Fire V20z. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis.	EOL-01/10/06
X9856A	9856A		AMD Opteron 248 CPU for Sun Fire V20z. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis.	EOL-01/10/06
X9857A	9857A		AMD Opteron 250 CPU for Sun Fire V20z. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis.	EOL-01/10/06
X9858A	9858A		AMD Opteron 252 (2.4 GHz) for Sun Fire V20z K2.5 systems. Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis	EOL-01/10/06
X9295A	9295A	9295A-IP	1GB DDR1/400 Registered ECC DIMMs (2x512MB) ⁸ Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis	EMEA EOL-01/10/06
X9296A	9296A	9296A-IP	2GB DDR1/400 Registered ECC DIMMs (2x 1 GB) ⁸ Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis	EMEA EOL-01/10/06
X9297A	9297A	9297A-IP	4GB DDR1/400 Registered ECC DIMMs (2x 2 GB) ⁸ Only compatible with A55 system part numbers ending in M,MDE,M-DE,M-E,ME, and A55E-AA XATO chassis	EMEA EOL-01/10/06
X9251A	9251A	9251A-IP	1 GB ECC Registered DDR1/333 MHz memory (2x512MB DIMMs) Compatible only with original A55 systems. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E, LE, M,MDE,M-DE,M-E,ME, A55D-AA and A55E-AA XATO chassis.	EOL-01/10/06
X9252A	9252A	9252A-IP	2GB ECC Registered DDR1/333 MHz memory (2x1GB DIMMs) Compatible only with original A55 systems. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E, LE, M,MDE,M-DE,M-E,ME, A55D-AA and A55E-AA XATO chassis.	EOL-01/10/06

X-Option	XATO	CRS	Description	Avail-ability
X9253A	9253A	9253A-IP	4GB ECC Registered DDR1/333 MHz memory (2x2GB DIMMs)Compatible only with original A55 systems. Not compatible with A55 system part numbers ending in L,LDE,L-DE,L-E, LE, M,MDE,M-DE,M-E,ME, A55D-AA and A55E-AA XATO chassis.	EOL-01/10/06
X9254A	9254A		36GB Ultra320 SCSI 10K RPM disk drive	EOL-12/03/04
X9256A	9256A		73GB Ultra320 SCSI 10K RPM disk drive	EMEA EOL-01/10/06
X9291A	9291A		73GB Ultra320 SCSI 15K RPM disk drive	EMEA EOL-01/10/06
X9257A	9257A		146 GB Ultra320 SCSI 10K RPM disk drive	EMEA EOL-01/10/06
X9883A	9883A		300 GB Ultra320 SCSI 10K RPM disk drive	EMEA EOL-01/10/06
	9848A		Pre-installed Solaris 9 4/04 (U6) OS, x86 Platform Edition with Solaris Right-To-Use (RTU) license. Evaluation copy of Java Enterprise System 2 also pre-installed on a Sun Fire V20z/73 GB 10K drive. Java Enterprise System Right-To-Use (RTU) sold separately.	
	3795A		Pre-installed Solaris 10 OS, x86 Platform Edition and Java Enterprise Server on a Sun Fire V20z or V40z 146 GB 10K RPM disk only. Right-To-Use (RTU) license included. XATO ONLY.	
	9839A		Option to create Sun Fire V20z/V40z XATO configuration without any installed hard disk drive.	EMEA EOL-01/10/06
X9259A	9259A	9259A-IP	CD/floppy drive (standard; this is for spares)	EMEA EOL-01/10/06
X9260A	9260A		DVD/floppy drive	
	9890A		Factory option to create Sun Fire V20z XATO configuration without any installed optical drive. Use only with A55E-AA XATO base chassis.	
X1233A			Infiniband HCA Low-profile PCI-X card (6.7"x2.5") low profile 133-MHz card (Mellanox)	
X4445A	4445A		Sun Quad GigSwift PCI-X Ethernet UTP - RoHS compliant Adapter (QGE-X) is a half length PCI card with four 10/100/1000 BASE-T Ethernet interfaces in a single card	RR/GA 11/08/05
X7285A	7285A		Sun PCI-X Dual Gigabit Ethernet UTP, Low Profile,RoHS compliant	Q4CY05
X7286A	7286A		Sun PCI-X Gigabit Ethernet MMF, Low Profile, RoHS compliant	Q4CY05

X-Option	XATO	CRS	Description	Avail-ability
X9265A	9265A		Ultra320 SCSI dual port PCI-X card, (6.6"x 4.2"), half-length, full height bracket 33/66/100/133 MHz card (LSI Logic LSI22320-R)	EMEA EOL- 01/10/06
X9269A	9269A		RAID Controller Half-Length/Full-Height PCI-X Card,(6.8" x 4.2"), 66/133 MHz card , 128 MB RAM (LSI Logic MegaRAID 320-2128).	EOL- 11/22/05
X9270A	9270A		Infiniband HCA Low-profile PCI-X card (6.7"x2.5") low profile 133-MHz card (Topspin HCA)	EMEA EOL- 01/10/06
X9271A	9271A	9271A-IP	Single Port Gigabit Ethernet Low Profile PCI-X Card,(6.6"x2.5"), 33/66/100/133 MHz card (Intel Pro/1000 MT single port - PWLA8490MT)	EOL- 1/10/06
X9272A	9272A	9272A-IP	Dual Port Gigabit Ethernet Low Profile PCI-X Card,(6.6"x2.5"), 33/66/100/133 MHz card (Intel Pro/1000 MT dual port - PWLA8492MT)	EOL- 1/10/06
X9273A	9273A		Quad Port Gigabit Ethernet Half-Length/Full-Height PCI-X Card (6.6"x 4.2"), 33/66/100/133 MHz card (Intel Pro/1000 MT dual port - PWLA8494MT)	EMEA EOL- 01/10/06
X9279A	9279A		Single-port, 2-GB/Sec FC-AL QLA 2340 Low Profile PCI-X Card, (6.7"x 2.5")full-length, half-height, 133 MHz card (Qlogic QLA2340)	EMEA EOL- 01/10/06
X9884A	9884A	9884A-IP	RAID Controller PCI-X card with battery backup for the Sun Fire V20Z and Sun Fire V40	EMEA EOL- 01/10/06
SG- XPCI1FC- QLC			Sun StorEdge 2 Gb FC Entry-Level Single Channel PCI-X Card, 33/66/100/133 MHz card	EOL'd 01/10/06
SG- XPCI1FC- QL2			Sun StorEdge 2Gb FC PCI-X Single Channel Adapter Card	
SG- XPCI1FC- QF2			Sun StorEdge 2 Gb FC Single Channel PCI-X Card, 33/66/100/133 MHz card	EOL'd 01/10/06
SG- XPCI2FC- QF2			Sun StorEdge PCI/PCI-X Dual-Channel Ultra320 SCSI Host Bus Adapter, (7.3" x 5") half-length,full-height 33/66/133/MHz.	EOL'd 01/10/06
SG- XPCI1F C-EM2			Sun StorEdge 2Gb FC PCI-X Single Channel Adapter card	Q4CY04
SG- XPCI2F C-EM2			Sun StorEdge 2Gb FC- PCI-X Dual Channel Adapter Card	Q4CY04

X-Option	XATO	CRS	Description	Avail-ability
SG-XPCI1SC SI-LM320:			Sun StorEdge PCI/PCI-X Single-Channel Ultra320 SCSI Host Bus Adapter,Low profile, includes standard and low profile brackets	EOL'd 01/10/06
SG-XPCI2SC SI-LM320			Sun StorEdge PCI/PCI-X Dual-Channel Ultra320 SCSI Host Bus Adapter, (7.3" x 5") half-length,full-height, 33/66/133/MHz.	EOL'd 01/10/06
PCI Cards, not PCI-X				
X3150A			Sun GigaSwift Ethernet UTP PCI Adapter, full-height/half-length. <i>PCI, not PCI-X.</i>	GA
X3151A			Sun GigaSwift Ethernet MMF PCI Adapter, full-height/half-length. <i>PCI, not PCI-X.</i>	GA
X4150A			Sun GigaSwift Ethernet UTP PCI Adapter,(Single-port Gigabit Ethernet), (6.6"x 2.5"), 33/66Mhz, Full-height bracket. <i>PCI, not PCI-X.</i>	Q4CY04
X4151A			Sun GigaSwift Ethernet MMF PCI Adapter, (Single-port Gigabit Ethernet), (6.6"x 2.5"), 33/66Mhz,Full-height bracket. <i>PCI, not PCI-X.</i>	Q4CY04
X4422A			Sun Dual Gigabit Ethernet (UTP) + Dual SCSI (80 Mbps Wide-Ultra2 SE/LVD) PCI Adapter, half-length card. <i>PCI, not PCI-X</i>	GA
X4444A			Adapter (Quad GbE) PCI card, full-length. <i>PCI, not PCI-X.</i>	EOL'd 11/22/05

General Configuration Notes:

1. CPU

- Single processor systems can be expanded with a second CPU of the identical model/speed only, e.g. AMD Opteron 1x248system can only use another AMD Opteron 248 CPU; mixing with a 248 CPU is not supported. CPU X-options also come with matching VRMs (Voltage Regulator Modules).
- CPU X-options available if customer want to upgrade older CPUs, e.g. Replace AMD Opteron 242 with one or two AMD Opteron 248 CPUs. CPU X-options also come with matching VRMs (Voltage Regulator Modules) as reuse of original VRMs may not be supported. Verify your system version as the CPU X-options are NOT compatible across the different standard configurations. As of 2/15/05, there are three versions – the original A55, the A55*L (introduced 12/07/04) and the A55*M (introduced 2/15/05). The X-option descriptions describe the correct applications in the tables above).

2. Memory

- The entry-level single CPU standard configuration has only 2 memory slots that are usable; the other 4 memory slots only work if a second CPU is installed. This can be done by purchasing the optional second CPU option.

- Memory must be installed in pairs. Pairs of different densities may be mixed, e.g. 2X512MB and 2x1GB on CPU 1 memory slots. Symmetry is best for memory performance on 2 CPU systems, e.g. 4 GB should have 2x1GB on CPU 1 memory slots and 2x1GB CPU 2 memory slots. While 3 GB would run (2x1GB on CPU 1, 2x512MB on CPU2), it will experience slower memory performance.
- DDR1/400 memory for A55E-AA can be expanded to 8 GB (1 CPU) or 16 GB (2 CPU) systems with BIOS release 1.33.5.2 (NSV 2.3.0.11a) or later.

3. **Memory Layout Restrictions for A55*M K2.5 systems (all including dual core 270/275):**

- Systems support either DDR1/333 or DDR1/400, but not mixed simultaneously in the memory banks.
- Any combination of DDR1/333 memory is supported up to 8GB per CPU (maximum of 16B with four CPUs).
- DDR1/400 memory for A55E-AA can be expanded to 8 GB (1 CPU) or 16 GB (2 CPU) systems with BIOS release 1.33.5.2 (NSV 2.3.0.11a) or later.

4. **Disk Drives**

- The second disk drive bay can take one of the current X-options: 36, 73 (10K), 73 (15K), 146 or 300 GB Ultra320 SCSI 10K RPM disks. The original factory-installed 73 GB disk drive can be removed by the customer and replaced with the larger/faster disk drives.
- Any combination of two drives supported – 36 and 73 GB, 73 and 146GB, 73 and 300 GB, etc.
- If onboard RAID 1 mirroring is going to be used, it requires identically-sized drives.
- Solaris 9 does not support the 300GB drive.

5. **PCI Slots** -The Sun Fire V20z has 2 PCI slots. There is one full-length/full height 133 MHz PCI-X slot and one half-length/full height 66 MHz PCI-X slot.

- The 133 MHz PCI-X slot is backward compatible with 66 MHz cards.
- 4 function PCI-X cards (such as (X)9273A Quad Gigabit Ethernet PCI-X card and the (X)4445A Quad GigaSwift PCI-X card) are not supported in the 133 MHz PCI-X slot due to AMD Errata #56.
- (X)9269A and (X)9884A are not supported in the 133MHz PCI-X slot.
- X4444A is not supported in the 133MHz PCI-X slot.
- X1233A, (X)9270A are supported in the 133Mhz slot only
- (X)4422A is supported in the 133 MHz full-length slot in all V20z chassis versions. It is also supported in the half-length 66MHz slot n the A55*M chassis systems but not in the original A55 and the A55*L chassis systems.

XATO Configuration Notes:

1. **All XATO orders require a working configuration.** An XATO configuration can not be created without the minimum memory or disk required. Not all X-options available as XATO options on Sun Fire V20z.

- A minimum of one CPU option required.
- A minimum of one memory option per CPU required.
- A minimum of one disk drive is required unless 9839A option is selected.
- The optical drive is required unless option 9890A is ordered. The optical bay can support only one optical/floppy drive assembly: either CD/floppy or DVD/floppy.

2. XATO Chassis Notes

- **All configurations require one A55E-AA base chassis (chassis, motherboard, power supply).** Please use A55E-AA chassis to utilize the latest revision with enhancements (such as the variable speed fan for quieter operation, etc.). The older A55D-AA (EOL'd 08/23/05), A55B-AA or A55A-AA (EOL'd 08/23/05) may still be available for customers that require older configurations.
- On 02/15/05, there is a new A55E-AA base chassis (chassis, motherboard, power supply). This chassis utilizes the same disk and memory market parts. However, A55E-AA uses unique CPU X-options/XATO options that are not compatible with A55D-AA, A55B-AA or A55A-AA chassis.
- On 12/07/04, a new A55D-AA base chassis was introduced (chassis, motherboard, power supply). This chassis utilizes the same disk and memory market parts. However, A55D-AA uses unique CPU X-options/XATO options that are not compatible with A55B-AA or A55A-AA chassis.

Sun Fire V20z PCI-X card support by OS

Part numbers are designated as X-option/XATO. For more information on individual PCI-X cards, please visit: <http://www.sun.com/servers/entry/v20z/optioncards.html>

<i>Option Card</i>	<i>Solaris 9 4/04 x86 and 9/04 x86</i>	<i>Solaris 10 on x64</i>	<i>Red Hat RHEL 3.0 (32-/64- bit)</i>	<i>Red Hat RHEL 4.0 (64-bit)</i>	<i>Novell SUSE SLES 8 (64-bit)</i>	<i>Novell SUSE SLES 9 (64-bit)</i>	<i>Windows 2 003 (32-/ 64-bit)</i>
X1233A	N/A	Included in OS	Yes	Yes	Yes	Yes	N/A
X4445A	Included in OS	Included in OS	Yes	Yes	Yes	Yes	N/A
X7285A	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
X7286A	Included in OS	Included in OS	Coming Soon	Coming Soon	Coming Soon	Coming Soon	Coming Soon
X9265A	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
X9269A	N/A	Included in OS	Yes	Yes	Yes	Yes	Yes
X9270A	N/A	Included in OS	Yes	Yes	Yes	Yes	N/A
X9271A	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
X9272A	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
X9273A	Included in OS	Included in OS	Yes/No solution for V20Z	Yes	Yes	Yes	Yes
X9279A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SG-XPCI2SCSI-LM320	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI1SCSI-LM320	Included in OS	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI1FC-QLC	N/A	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI1FC-QL2	09/04 only	N/A	N/A	N/A	N/A	N/A	N/A
SG-XPCI1FC-QF2	N/A	Included in OS	Yes	Yes	Yes	Yes	Yes

<i>Option Card</i>	<i>Solaris 9 4/04 x86 and 9/04 x86</i>	<i>Solaris 10 on x64</i>	<i>Red Hat. RHEL 3.0 (32-/64- bit)</i>	<i>Red Hat. RHEL 4.0 (64-bit)</i>	<i>Novell SUSE SLES 8 (64-bit)</i>	<i>Novell SUSE SLES 9 (64-bit)</i>	<i>Windows2 003 (32-/ 64-bit)</i>
SG-XPCI2FC- QF2	Yes	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI1FC- EM2	N/A	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI2FC- EM2	N/A	Included in OS	Yes	Yes	Yes	Yes	Yes
SG-XPCI1FC- QF4	SDLC for Solaris 9 4/04 x86	N/A	N/A	N/A	N/A	N/A	N/A
SG-XPCI2FC- QF4	SDLC for Solaris 9 4/04 x86	N/A	N/A	N/A	N/A	N/A	N/A
X3150A	Yes	Yes	N/A	N/A	N/A	N/A	N/A
X3151A	Yes	Yes	N/A	N/A	N/A	N/A	N/A
X4150A	Included in OS	Included in OS	Yes	TBD	Yes	TBD	N/A
X4151A	Included in OS	Included in OS	Yes	TBD	Yes	TBD	N/A
X4422A:	Included in OS	N/A	Yes	TBD	Yes	TBD	N/A
X4444A:	Included in OS	Included in OS	Yes	TBD	Yes	TBD	N/A

Storage Support by OS and PCI/PCI-X cards

Part numbers are designated as X-option/XATO – (X)9265A represents X9265A and 9265A (X-option and XATO option respectively)

<i>Storage Device</i>	<i>Solaris 10 on- x64</i>	<i>RHEL 3 (32-/64-bit)</i>	<i>RHEL 4 (64-bit)</i>	<i>SLES 9 (64- bit)</i>	<i>Windows 2003 (32-/64-bit)</i>
Workgroup Storage					
StorEdge 3120 SCSI (JBOD/RAID)	SG- XPCI1SCSI- LM320	SG- XPCI1SCSI- LM320	SG-XPCI1SCSI- LM320	SG- XPCI1SCSI- LM320	SG- XPCI1SCSI- LM320

Storage Device	Solaris 10 on- x64	RHEL 3 (32-/64-bit)	RHEL 4 (64-bit)	SLES 9 (64-bit)	Windows 2003 (32-/64-bit)
StorEdge 3310 SCSI (JBOD/RAID)	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
StorEdge 3320 SCSI (JBOD/RAID)	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
StorEdge 3510 FC Array (JBOD/RAID)	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QLC/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
StorEdge 3511 FC (RAID-SATA)	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QLC/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Midrange Storage					
Sun StorEdge 6120	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge 6130	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge 6320	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge 6920	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Data Storage					
Sun stooge 9990 System	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun stooge 9980 System	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun stooge 9970	SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
NAS Storage					
Sun StorEdge 5210	Ethernet				
Sun StorEdge 5310	Ethernet				
Tape Backup and Restore					
LTO 2 SCSI Desktop	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
DAT 72 SCSI Desktop and 1 RU rackmount	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
AutoLoader C2 (2rU) SCSI	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320

Storage Device	Solaris 10 on x64	RHEL 3 (32-/64-bit)	RHEL 4 (64-bit)	SLES 9 (64-bit)	Windows 2003 (32-/64-bit)
Tape Library (4rU) SCSI and FC	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
LTO 3 SCSI Desktop and 2 RU rackmount	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
SDLT 320 SCSI Desktop	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
SDLT 600 SCSI Desktop and 2 RU rackmount	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320	SG-XPCI1SCSI-LM320
Sun StorEdge L500 SCSI and FC	SG-XPCI1SCSI-LM320 SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QLC/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge L180 SCSI and FC	SG-XPCI1SCSI-LM320 SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QLC/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge L700 SCSI and FC	SG-XPCI1SCSI-LM320 SG-XPCI2FC-QF2/ SG-XPCI2FC-EM2/ SG-XPCI1FC-EM2/ SG-XPCI1FC-QLC/ SG-XPCI1FC-QL2/ SG-XPCI1FC-QF4/ SG-XPCI2FC-QF4				
Sun StorEdge L8500 FC	TBD	TBD	TBD	TBD	TBD
Tape Backup Storage Applications					
Legato Sun StorEdge EBS/ESG NetWorker 7.2 SU1	Client Only	Client/Server 32-bit	Not Supported	Not Supported	Client /Server 32-bit only 64-bit :Not Supported
Legato Sun StorEdge EBS/ESG NetWorker 7.3 (7.2 SU 2)	Server: Q1CY06	Client/Server 32-bit	Q1CY06	Q1CY06	Client/Server 32-bit only 64-bit:TBD
Symantec Netbackup 6.0	Client Only	Not Supported	Not Supported	Server/Client	Client/Server 32-bit only 64-bit:Not Supported
Symantec Netbackup 6.0 MP1	Server: 2HCY06	2HCY06	2HCY06	Server/Client	Client/Server 32-bit only 64-bit:2HCY06

Please see <http://www.sun.com/servers/entry/v20z/storage.html> for more details.

Sun Fire V20z Server Short Lead-time Configurations:

Short Lead Time (SLT) configurations announced on 02/15/05 are based on the A55*L standard configurations announced on 12/07/04. These systems have the variable speed fans.

Short Lead Time (SLT) configurations announced on 12/07/04 are based on the original Sun Fire V20z announced on 7/13/04. These systems do **NOT** have the variable speed fans as the new A55*L standard configurations announced 12/07/04. If customer prefer the quieter variable fan speed models, they should order the standard configurations non-SLT configurations denoted by part number A55*L announced on 12/07/04.

However, these SLT configurations are available at a slight premium with very fast ship times. Standard SLT configurations (two models at this time) can be shipped within 24 hours of receipt of customer order. There are also XATO SLT configurations with limited XATO options that can be shipped within 3 days of receipt of customer order.

Unlike standard XATO, XATO SLT configurations have memory, disk, and CD drives as standard. Adding XATO memory, disk, or NIC are limited by existing installed peripherals (e.g. 4 memory slots already filled).

These are promotions only, primarily sold via Sun Store, and limited to US only at this time.

SLT Part Number	Description	Availability
A55-NFB212GRA5L-SP	2xAMD Opteron 248 processors,2GB RAM (4x512MB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED. K2	02/15/05
A55-NZB214GRA5L-SP	2xAMD Opteron 250 processors, 4GB RAM (4x1GB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED. K2	02/15/05
A55-NFB2-12GRA5LSP	2xAMD Opteron 248 processors, 2GB RAM (4x512MB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED.	12/07/04
A55-NZB2-14GRA5LSP	2xAMD Opteron 250 processors, 4GB RAM (4x1GB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED.	12/07/04
A55G-AA	2xAMD Opteron 248 processors, 2GB RAM (4x512MB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED.	12/07/04
A55H-AA	2xAMD Opteron 250 processors, 4GB RAM (4x1GB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED.	12/07/04
A55I-AA	2xAMD Opteron 248 processors, 2GB RAM (4x512MB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED. K2	02/15/05
A55J-AA	2xAMD Opteron 250 processors, 4GB RAM (4x1GB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED. K2	02/15/05
X9268A	Slide Rail kit, Sun Fire V20z.Short Lead Time (SLT)-enabled	
9251A	1GB ECC Registered DDR1/333 MHz memory (2x512MB DIMMs) .Short Lead Time (SLT)-enabled	

SLT Part Number	Description	Availability
9252A	2GB ECC Registered DDR1/333 MHz memory (2x1GB DIMMs). Short Lead Time (SLT)-enabled	
9253A	4GB ECC Registered DDR1/333 MHz memory (2x2GB DIMMs). Short Lead Time (SLT)-enabled	
9256A	73GB Ultra320 SCSI 10K RPM disk drive.Short Lead Time (SLT)-enabled	
9273A	Quad Gigabit Ethernet NIC full-height/half-length 66- or 133-MHz card .Short Lead Time (SLT)-enabled	

Examples.

#1 Standard configuration Short Lead Time (SLT) that ships within 24 hours:

Customer would like the entry Sun Fire V20z Short Lead Time (SLT) -enabled system with 2xAMD Opteron CPUs. They would select the following parts:

A55-NFB212GRA5L-SP

2xAMD Opteron 248 processors, 2GB RAM (4x512MB DIMMs), 73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive, North American power cord INCLUDED. K2 version

And the recommended slide rail kit:

X9268A

Slide Rail kit, Sun Fire V20z.Short Lead Time (SLT)-enabled

Note:

1. Adding X-options other than the Short Lead Time (SLT)-enable parts WILL delay the order and 24 hours shipment can not be achieved.
2. North American power cord is included in this promotion, but NOT in the standard world-wide available configurations (those systems require Geographic-specific power cords).
3. XATO options are only available with the XATO base system at 3 day ship lead times (see next section).

#2 Custom build (XATO) configuration Short Lead Time (SLT) that ships within 3 days:

Customer would like the entry Sun Fire V20z Short Lead Time (SLT) -enabled system with 2xAMD Opteron CPUs. However, they would also like to configure extra memory and a quad NIC. They would select the following parts:

A55I-AA

2xAMD Opteron 248 processors, 2GB RAM (4x512MB DIMMs),
73 GB U320 SCSI drive 10K RPM, CD-ROM/floppy combination drive,
North American power cord INCLUDED. XATO (Custom Build) only. K2 version.

9252A:

2GB ECC Registered DDR1/333 MHz memory (2x1GB DIMMs).Short Lead Time (SLT)-enabled

9273A:

Quad Gigabit Ethernet NIC full-height/half-length 66- or 133-MHz card .Short Lead Time (SLT)-enabled

And the recommended slide rail kit:

X9268A:

Slide Rail kit, Sun Fire V20z.Short Lead Time (SLT)-enabled

Note:

1. Adding XATO-options other than the Short Lead Time (SLT)-enable parts WILL delay the order and 3 day shipment can not be achieved.
2. North American power cord is included in this promotion, but NOT in the standard world-wide available configurations (those systems require Geographic-specific power cords).
3. Short Lead Time X-options (including standard configurations) must be put on separate order; otherwise the longer lead time (3 days) would apply to ALL parts on the order.

Service and Support

Sun Services offers a full range of services to assist customers who deploy the Sun Fire V20z server. Whether it is architecture services, implementation services, or services to help customers manage the servers once released to production, Sun Services has the right services during every phase of the project's life cycle.

Sun Services is providing unbundled software and hardware support for added flexibility and choice. Support offerings for the Sun Fire V20z server include Sun Software Support Services for all Sun software.

Sun Software Support Services

SunSM Software Standard Support

The Sun Software Standard Support offering provides customers with a comprehensive support plan. Features include:

- Extended local business hours (12 hour) for telephone and online support (5x12)
- Four (4) business hour response on Priority 1 (Urgent) requests
- Two (2) authorized contacts
- Online incident submission and tracking
- Software updates and patches
- Access to online self-solve resources

SunSM Software Premium Support

The SunSM Software Premium Support offering is designed for critical environments where high availability is a priority and round-the-clock support is a customer requirement. In addition to all of the features of the Standard support level, this level of service offers:

- 24/7 coverage with live call transfer for Priority 1 (Urgent) requests
- Sun Vendor Integration Program (Sun VIP[SM] Program)
- Three (3) authorized contacts per 8-hour shift

Optional Services

Both the Standard and Premium offerings give customers the option to purchase the following to enhance their service plans:

- Dedicated or Assigned Service Account Manager (SAM)
- Dedicated Technical Support Engineer (TSE)
- Additional authorized contacts
- SunSpectrumSM hardware-only support
- Next business day on-site response

Additional support services may be available on a custom quote basis. For more information on Sun Support Services can be found at <http://www.sun.com/service/support>.

SunSpectrum Hardware-Only Support

The Sun Fire V20z comes standard with a 3-year, next business day warranty. For customers who prefer Sun to provide the maintenance service, the Sun Fire V20z server's warranty can be upgraded to SunSpectrum Hardware-Only support whose features range from Next Business Day to 24x7 4-hour response.

Warranty Upgrade to Sun HW Only Service for Sun Fire V40z Server

The following are part numbers and descriptions for the warranty upgrade to Sun HW Only Service:

Part Number	Description
W9D-A55-SD-1H	Upgrade to 1 year Sun HW Only SBD for Sun Fire V20z Server
W9D-A55-SD-2H	Upgrade to 2 years Sun HW Only SBD for Sun Fire V20z Server
W9D-A55-SD-3H	Upgrade to 3 years Sun HW Only SBD for Sun Fire V20z Server
W9D-A55-24-1H	Upgrade to 1 year Sun HW Only 7x24 for Sun Fire V20z Server
W9D-A55-24-2H	Upgrade to 2 years Sun HW Only 7x24 for Sun Fire V20z Server
W9D-A55-24-3H	Upgrade to 3 years Sun HW Only 7x24 for Sun Fire V20z Server

The Online Support Center

The Online Support Center (OSC) provides Web-based solutions anytime, anywhere. Providing high-quality availability services has always been a top priority at Sun. As a pioneer in Web-based customer solutions, Sun continues to utilize the power and versatility of the Internet to offer customers a broad variety of online service offerings.

The online answer/transaction process can save customers valuable time by eliminating the time spent waiting on the phone for a customer service representative. The Online Support Center empowers the user by offering anywhere, anytime access to Web-based support, training, and consulting solutions for Sun hardware and software products. The site serves as a portal for proactive service offerings, systems support features, and resource links.

For more information on the above support offerings, please visit:
<http://www.sun.com/service/support>.

Warranty

The Sun Fire V20z server has a three year, next business day warranty.

Duration:	3 years Next Business Day
HW Coverage Hours:	Business Hours
HW Response Times:	Next Business Day
Delivery Method:	Parts Exchange or Onsite
HW Phone Coverage:	Business Hours
HW Phone Response Time:	8 hours

Solaris OS Support is available as follows

- Sun Software Support Standard: business hours
- Sun Software Support Premium: 7x24

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For Linux support, Red Hat Enterprise Linux and SUSE subscriptions are available.



Glossary

1U or RU	One rack unit as defined by the Electronic Industries Alliances (EIA). A vertical measurement equal to 1.75 inches.
AC	Alternating Current.
ChipKill™	ChipKill, or advanced ECC memory, is an IBM xSeries memory subsystem technology that increases memory reliability several times over, helping to reduce the chances of system downtime caused by memory failures.
Density	Number of units in a given amount of space.
EAL4	Evaluation Assurance Level 4. EAL4 is on of the Common Criteria Evaluation Assurance Levels for evaluating the security of IT products and systems. These levels from from 0 (lowest) to 7 (highest). EAL4 provides a high level of assurance and guarantees that the certified products is methodically designed, tested, and reviewed.
Ecache	External cache. Memory cache external to the CPU chip. Under some CPU architectures referred to as L2 cache. The AMD Opteron device integrates 1 MB of L2 cache per CPU.
ECC	Error Correcting Code. A type of memory that corrects errors on the fly.
Ethernet 10/100/1000Base-T	The most widely used LAN access method defined by the IEEE 802.3 standard; uses standard RJ-45 connectors and telephone wire. 100Base-T is also referred to as Fast Ethernet. And 1000Base-T is also referred to as Gigabit Ethernet.
FRU	Field Replaceable Unit.
General-purpose server	A server designed to perform any type(s) of function(s). General-purpose servers typically require skilled IT professionals and system administrators to maintain them.
Host ID	The unique identifier assigned to the host computer.
Hot-pluggable	A feature that allows an administrator to remove a drive without affecting hardware system integrity.
Hot-swappable	A feature that allows an administrator to remove and/or replace a device without affecting software integrity. This means that, while the system does not need to be rebooted, the new component is not automatically recognized by the system.
IKE	Internet Key Exchange. A method for establishing a security association that authenticates users, negotiates the encryption method and exchanges the secret key. IKE is used in the IPSec protocol.
I/O	Input/output. Transferring data between the CPU and any peripherals.
IPSec	IP Security. A security protocol from the IETF (Internet Engineering Task Force) that provides authentication and encryption over the Internet. Unlike SSL, which provides services at layer 4 and secures two applications, IPSec works at layer 3 and secures everything in the network.

IPMI	Intelligent Platform Management Interface. System management architecture for providing an industry-standard interface and methodology for system management.
L2 cache	The AMD Opteron processor integrates 1 MB of L2 cache per CPU. See also Ecache.
MTBF	Mean Time Between Failures. The average time a component works without failure.
MTTR	Mean Time To Repair. The average time it takes to repair a component.
RAM	Random Access Memory.
SCSI	Small Computer Systems Interface. Pronounced "scuzzy." A hardware interface that allows the connection of up to 15 peripheral devices to a single bus.
SNMP	Simple Network Management Protocol. A set of protocols for managing complex networks. The first versions of SNMP were developed in the early 80s. SNMP works by sending messages, called protocol data units (PDUs), to different parts of a network. SNMP-compliant devices, called agents, store data about themselves in Management Information Bases (MIBs) and return this data to the SNMP requesters.
X86	Refers to the Intel 8086 family of microprocessor chips as well as compatible microprocessor chips made by AMD and others.

Materials Abstract

All materials will be available on SunWIN except where noted otherwise.

Collateral	Description	Purpose	Distribution	Token # or COMAC Order #
• <i>Sun Fire V20z server Just the Facts</i>	Reference Guide for the Sun Fire V20z server (this document)	Training, Sales Tool	SunWIN, Reseller Web	400844
Product Literature				
• <i>Sun Fire V20z server Datasheet</i>	Datasheet	Sales Tool, Training	SunWIN, COMAC	400842
• <i>Sun Fire V20z server Pocket Facts</i>	Pocket Facts	Sales Tool, Training	SunWIN, COMAC	400843
• <i>Sun Fire V20z server Reviewer's Guide</i>	Review Guide	Sales Tool, Training	SunWIN, COMAC	400845
• <i>Sun Fire V20z server Java Application Server Solution Brief</i>	Solution Brief	Sales Tool, Training	SunWIN, COMAC	400846
• <i>Sun Fire V20z server NDA Customer Presentation</i>	Customer Presentation	Sales Tool, Training	SunWIN, COMAC	400849
• <i>Sun Fire V20z server Sales Presentation</i>	Sales Presentation	Sales Tool, Training	SunWIN, COMAC	400848
• <i>Sun Fire V20z server Technical Presentation</i>	Technical Presentation	Sales Tool, Training	SunWIN, COMAC	400847
• <i>Sun Fire V20z server Architecture White Paper</i>	White Paper	Sales Tool, Training	SunWIN, COMAC	400850
• <i>Sun Fire V20z server Application Brief</i>	Application Brief	Sales Tool, Training	SunWIN, COMAC	400851
External Web Sites				
• <i>Sun Fire V20z server Web Site</i>	http://www.sun.com/servers/entry/V20z			
Internal Web Sites				
• <i>Sun Fire V20z server Internal Web Site</i>	http://vsp.eng/entry/fire/V20z			
Reseller Web Site				
• <i>Sun Reseller General Information</i>	http://reseller.sun.com			

both Solaris SPARC and x86 packages for ipmitool 1.6.0 at

http://sourceforge.net/project/showfiles.php?group_id=95200&package_id=101411&release_id=267131

They are also available internally with a link to Solaris x86 KCS driver

at <http://webhome.sfbay/duncan/ipmitool/1.6.0/>

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Just the Facts, March 07, 2006

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The V20z resource CD includes a version of ipmitool (and the lipmi driver) for Solaris x86. For Solaris 10 ipmitool 1.5.9 will be included with the OS...



Internal Information

Sun Proprietary—Confidential: Internal Use Only

Competitive Information

Competitive analysis reports are posted quarterly to <http://vsp.eng/competitive/products>. These reports contain information about competitor's products, the strengths and weaknesses of the Sun Fire V20z server versus competitors' products, and positioning information.

A summary of the Sun Fire V20z server versus the leading competition is shown below.

	<i>Sun Fire V20z Server</i>	<i>IBM eServer 326</i>	<i>Dell PowerEdge 1850</i>	<i>HP DL145</i>
Number of processors	1–2	1–2	1–2	1–2
CPU	AMD Opteron	AMD Opteron	Intel Xeon EM64T	AMD Opteron
Predicted cache size (L2)	1 MB	1 MB	1MB	512 KB, some CPUs have 1MB L3 cache
CPU interconnect	3 available HyperTransport links per CPU*	3 available HyperTransport links per CPU*	800 MHz FSB	533 MHz FSB
Min/max memory	1-16 GB	512 MB–16GB	512 MB–12GB (16 GB using dual rank 4GB DIMMs)	1-16 GB
O/S	Solaris OS (x86 Platform Edition)/ Linux/Windows	Windows/Linux**	Windows/Linux	Windows/Linux
Disk number	2 (Ultra320 SCSI)	2 (Ultra320 SCSI)	2 (Ultra320 SCSI)	2 ATA100
Raid	RAID 1	RAID 1	Optional	Optional
PCI-X slots	2 (1 full-length/full height at 133 MHz and 1 half-length/full height at 66 MHz)	2 (1 full-length at 133MHz and 1 half-length at 100 MHz)	2 (1 full-length at 133 MHz and 1 full-length at 100 MHz) or 2 PCIe (1x4 lane and 1x8 lane)	1 full-length at 133 MHz
Ethernet ports	2 x 10/100/1000	2 x 10/100/1000	2 x 10/100/1000	2 x 10/100/1000
Height	1U	1U	1U	1U
Power consumption	465 W	411 W	550 W	500 W
Remote management	LOM	Yes	Yes	Yes

	<i>Sun Fire V20z Server</i>	<i>IBM eServer 326</i>	<i>Dell PowerEdge 1850</i>	<i>HP DL145</i>
Warranty	3 year next business day onsite	1 year onsite	Varies	1 year parts, 0 years Labor, 0 years on-site support

* Currently, each HyperTransport link is 16 x 16 bits at 800 MHz (1 GHz planned in the future).

** IBM has not publicly announced support for Windows.

*** See section on [Sun Fire V20z Factory Standard Configurations](#) for supported PCI-X cards.

Sun Fire V20z Server vs. IBM eServer 326

- 3 year next business day vs. 1 year same day on site warranty

Sun Fire V20z Server vs. Dell PowerEdge 1850

- Higher bandwidth with HyperTransport technology
- Power supply consumes over 50Watts less for similar configuration – a big difference in compute farm deployments.

Sun Fire V20z Server vs. HP DL145

- Ultra320 SCSI more powerful and reliable than ATA100
- 3 year next business day vs. 1 year parts, 0 years labor, 0 years onsite warranty.
- Two PCI-X slots vs. one PCI-X slot
- Power supply consumes over 50Watts less for similar configuration – a big difference in compute farm deployments.