



Sun Fire™ E20K Server

Extreme high-end computing at an affordable price



Highlights

- Delivers more than 5x the performance of UltraSPARC III and more than 2x the performance of UltraSPARC IV servers—in the same footprint
- Scales up to 36 CPUs with 72 threads and over .5TB of memory for heavily threaded commercial applications
- Unique Solaris Application Compatibility Guarantee enables seamless migration to new processor technologies
- Mix and match UltraSPARC III, IV, IV+ CPUs in the same system for in-chassis upgrades with no forced migrations
- Unique Uniboard technology common across Sun Fire high-end servers enables quick provisioning of resources
- Delivers more than 40% faster I/O performance using PCI-X technology
- Dynamic Reconfiguration saves customers significant time and money in planned downtime
- Dynamic System Domains and Solaris Containers can increase utilization up to 80%
- Capacity on Demand enables pay-as-you-grow computing options
- Available as a Sun™ System Pack, enabling customers to maximize their IT value while lowering total cost of acquisition and ownership



Based on the UltraSPARC® IV+ processor with chip-multithreading technology, the enhanced Sun Fire™ E20K server delivers sophisticated availability, scalability, and manageability features to meet the highest levels of mission-critical computing. Ideal for enterprise consolidation and mainframe migration, this 36-processor, 72-thread datacenter system is optimized for DSS/DW as well as OLTP databases, ERP, CRM, SCM, and other mission-critical business applications.

It also grows with your business—up to 18 CPU/memory Uniboards—giving you 72 dual thread processors for maximum compute power. In addition, the Sun Fire E20K server is a member of the only high-end server family to allow the sharing of common Uniboards, enabling you to provision extras to address peak demand across multiple applications, dynamically. The ability to run mixed generations of UltraSPARC III, IV, and IV+ CPUs—even in the same system—minimizes costly migrations.

By combining Uniboards with a high-bandwidth PCI-X subsystem, more than 1 TB of memory, the multithreaded Solaris Operating System's high-end features such as memory-placement optimization, and the high-performance Sun Fireplane interconnect, the Sun Fire E20K delivers the balanced, predictable application performance you can count on. Dynamic Tracing can optimize application performance

even further—as high as 30 times in certain customer scenarios. And with Capacity on Demand (COD) 2.0, you pay only for the capacity you use, or you can keep resources in reserve as hot spares in mission-critical environments.

With up to 9 fault-isolated domains and thousands of Solaris™ Containers, the Sun Fire E20K server provides unprecedented virtualization capabilities for enterprise consolidation. Plus, the system delivers the highest levels of reliability and availability through full hardware redundancy, Dynamic Reconfiguration, and Predictive Self-Healing.

What's more, the Sun Fire E20K server is available as a Sun System Pack, which delivers significant advantages over traditional warranty plans by providing enhanced service coverage, automatic OS updates, training credits, and much more.

Sun Fire E20K Server Specifications

Processor

Processor	Up to 36 UltraSPARC IV+ and/or UltraSPARC IV processors
Architecture	Superscalar SPARC® V9, ECC protected
Cache per processor	Level 1: 64 KB data and 64 KB instruction per pipeline Level 2: 2 MB on-chip Level 3: 32 MB external

System

Processor/memory boards	Up to nine Uniboard CPU/memory boards, four processors each, up to 64 GB per board; maximum 576 GB per domain
I/O	Up to 36 hot-swappable PCI-X I/O slots (27 90 MHz, nine 33 MHz); supports 10/100 BaseT Ethernet, Gigabit Ethernet, UltraSCSI (LVD and HVD), ATM, FC-AL, HSI, and SCI
System interconnect	150 MHz Sun Fireplane redundant 18x18 data, address, and response crossbar interconnect

Storage

Standard	250+ TB direct connect storage — Fibre Channel (1 GB and 2 GB) and UltraSCSI
Boot	Sun StorageTek™ 3120 array Sun StorageTek S1 array Sun StorageTek D240 media tray Sun StorageTek 3510 array Sun StorageTek 3310 array Sun StorageTek 9990 array Direct attach to Sun StorageTek tape libraries and disk arrays, including Sun StorageTek 3000, 6000, and 9000 families

Performance

Overall system bandwidth	Up to 86.4 GB/s aggregate, up to 57.6 GB/s peak, up to 21.6 GB/s sustained
Overall I/O bandwidth	Up to 17.9 GB/s sustained

Availability

Standard	Hot-swap CPU, memory, I/O, power, fans, online upgrades, journaling file system, redundant network connections, redundant storage connections, hardened operating system kernel, hardened I/O drivers
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Security

Domain management	Dedicated network connections (SC to 18 domains) inside Sun Fireplane interconnect
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Resource Management

Standard	Dynamic System Domains, Solaris Resource Manager, Solaris Bandwidth Manager
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Software

Operating system	UltraSPARC IV+: Solaris 10 (beginning with 3/05 HW 1) Solaris 9 (beginning with 9/05) UltraSPARC IV: Solaris 10 (beginning with 3/05) Solaris 9 (beginning with 4/04) Solaris 8 (beginning with 2/04)
Languages	C, C++, Pascal, FORTRAN, Java
Networking	ONC™/NFS, TCP/IP, SunNet™ OSI, X.25 Start, DCE, Netware
System management	SMS 1.6 for 1.8 GHz USIV+, SMS 1.5 or later for 1.5 GHz USIV+, SMS 1.4.1 or later for USIV
Network/file system	Sun QFS, Sun ZFS (future Solaris 10 release), VERITAS Volume Manager, VERITAS File System

Environmental

AC power	200–240 single-phase VAC, 47–63 Hz. Two N+1 power grids, each using six 30-Amp circuits; second power grid provided for redundancy
Optimum	22°C (72°F), 45% relative humidity noncondensing
Range	10°C to 35°C (50°F to 90°F), at 20% to 80% relative humidity noncondensing
Altitude	Up to 2134 m (7000 ft.) for 1.8 GHz USIV+; up to 3048 m (10,000 ft.) for all others

Regulations (meets or exceeds the following requirements)

Safety	UL 60950, USA CAN/CSA-C22.2 No 60950, Canada EN 60950, Europe GOST-R, Russia CB Scheme with national differences
Additional Power Supply Safety	S Mark, Argentina CCC, China
Emissions	EN55022, Europe EN61000-3-2 and 3-3, Europe FCC Class A, USA ICES-003 Class A, Canada VCCI Class A, Japan CNS-13438 (BSMI), Taiwan AS/NZ 3548 (C-tick), Australia Gost-R, Russia MIC, Korea
Immunity	All European requirements EN55024 EN61000-4-2, -4-3, -4-5, -4-5, -4-6, -4-8, -4-11, EN300-386
Regulatory markings	FCC, ICES-003, CE, C-tick, VCCI, GOST-R, BSMI, UL/cUL, TUV-GS, MIC, RoHS

Get More.

Get the details on how the Sun Fire E20K combines extreme high-end computing at an affordable price with exceptional investment protection. Contact your Sun Representative at 1-800-555-9SUN, or visit sun.com/servers/highend/sunfire_E20K

Key RAS Features

Full hardware redundancy, fault-isolated Dynamic System Domains, Dynamic Reconfiguration, Auto Diagnosis and Recovery, proactive self-diagnostics, online upgrades, concurrent maintenance, end-to-end data integrity including ECC, redundant network connections, redundant storage connections, kernel hot-patching, hardened operating system kernel, live operating system upgrades, journaling file system, hardened I/O drivers, CPU off-lining, memory page retirement, after-kernel hot-patching, and cluster support.

Sun Upgrade Advantage Program

The Sun Upgrade Advantage Program (UAP) offers upfront discounts for trade-in of qualified Sun and competitive servers toward the purchase of replacement Sun Fire servers. Whether upgrading one system or consolidating many systems to one, Sun UAP offers the flexibility to trade in and receive credit toward the new Sun system purchased. Upgrades are also available for Sun Fire server boards and I/O assemblies. For more information visit sun.com/ibb/enterprise.

Dimensions and Weight

H:	191 cm (74.75 in.)
W:	85 cm (33.25 in.)
D:	166 cm (65.0 in.)
Weight	1122 kg (2468 lb.) fully configured

Remote Services

Sun Net Connect

Services

From design and implementation to support and smart sourcing, Sun provides a broad portfolio of IT infrastructure services — all built to help you achieve your objectives. Leverage Sun's relentless innovation and depth of expertise to help you architect and deploy a reliable, high-performance Sun Fire E20K solution that gives you the edge. If you opt out of a Sun System Pack at point of sale, once in production, a SunSpectrum™ Support Upgrade provides integrated hardware and OS coverage including Sun technical support, expedited hardware service, SunVIP™ interop support, and premium online resources including on-demand health checks and OS update services.