

Sun Fire™ E25K Server



High-volume, mission-critical computing with leading investment protection and headroom to grow.

Key Feature Highlights

- Delivers up to 5 times the performance of UltraSPARC III servers and nearly double the performance of UltraSPARC IV servers in the same footprint.
- Scales up to 72 processors with 144 threads and up to 576GB memory for heavily threaded commercial applications.
- Unique Solaris OS application compatibility guarantee enables seamless migration to newer processor technologies.
- Mix and match UltraSPARC IV+, IV, and III processors in the same system for in-chassis upgrades to faster processors, without forced hardware migrations.
- Unique Uniboard technology common across Sun Fire E4900–E25K servers enables provisioning of extra resources when required.
- New RAS and security capabilities further enhance system uptime. Predictive Self-Healing predicts and prevents faults automatically.
- Unique Dynamic Reconfiguration capability saved customers nearly 1000 hours of planned downtime, for a conservative estimate of \$47M savings in one 90-day period.
- Dynamic System Domains technology—electrically fault-isolated hard partitions—and Solaris Containers can increase utilization up to 80%, making this an ideal platform for consolidation.
- Respond flexibly to changing business requirements with Capacity on Demand for “pay as you grow” computing options.

The flagship Sun Fire™ E25K server is a 72-processor (up to 144 threads) datacenter system based on the new UltraSPARC® IV+ processor with Chip Multithreading (CMT) technology, and is engineered with the most sophisticated availability, scalability, and manageability features to meet the highest levels of mission-critical computing.

The Sun Fire E25K server delivers the highest levels of reliability and availability through full hardware redundancy, Dynamic Reconfiguration, and Predictive Self-Healing. With up to 18 fault-isolated domains and thousands of Solaris™ Containers, the Sun Fire E25K server provides unprecedented virtualization capabilities for enterprise consolidation. The Solaris OS and Sun Fire E25K server combination offers a balanced system architecture with robust throughput capabilities underwritten by the industry-unique Solaris application compatibility guarantee. An ideal platform for mainframe migration, the Sun Fire E25K server utilizes Solaris OS capabilities to support high reliability and data integrity through the Predictive Self-Healing architecture.

The Sun Fire E4900–E25K servers are the only servers in the industry to offer common CPU/Memory Uniboards across the product line. Adding, moving, or reprovisioning Uniboards can be done online using Dynamic Reconfiguration, and you can share resources between applications to address changing demands if needed. You can also maintain current hardware investments by running mixed generations of UltraSPARC IV+, IV, and III processors seamlessly in the same server to minimize disruptive server swap-outs.

By combining Uniboards with an integrated industry-standard PCI subsystem for excellent I/O bandwidth, the Sun Fire E25K server offers

a well-balanced compute platform. Sun's proven multithreaded Solaris OS also offers additional high-end features such as Memory Placement Optimization, which, when coupled with superior hardware technologies such as the UltraSPARC IV+ processor and the Sun Fireplane interconnect, deliver predictable performance for demanding applications. The Sun Fire E25K server provides uptime through built-in hardware redundancy and intelligent system monitoring, diagnosis, and recovery provided with the Predictive Self-Healing. Organizations can also conveniently and quickly deploy mission-critical applications using the factory-integrated Solaris OS and Java™ Enterprise System software stack. The Sun Fire E25K server offers “pay as your grow” resources with Capacity on Demand (COD) 2.0—pay only when extra capacity is needed or use as hot spares in mission-critical environments.



Sun Fire E25K Server Specifications

Processor

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| Number | Up to 72 |
| Architecture | 1.5GHz UltraSPARC IV+ and/or 1.05GHz/1.2GHz/1.35GHz UltraSPARC IV and/or 1.2GHz UltraSPARC III processors; 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 interconnect | 150 MHz Sun Fireplane redundant 18x18 data, address, and response crossbar interconnect |

System

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| Processor/memory boards | Up to 18 Uniboard CPU/memory boards with four processors each, and up to 32 GB per board; maximum 576 GB per domain |
| I/O | Up to 72 hot-swappable PCI+ I/O slots; 54 slots are 66 MHz; 18 slots are 33 MHz; supports 10/100 BaseT Ethernet, Gigabit Ethernet, UltraSCSI (LVD and HVD), ATM, FC-AL, and HiPPI |

Storage

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| Standard | 250+ TB direct connect storage — Fibre Channel (1 GB and 2 GB) and UltraSCSI. For boot: Sun StorEdge™ 3120, Sun StorEdge S1, Sun StorEdge D240, Sun StorEdge 3510, Sun StorEdge 3310, and Sun StorEdge 9990. Direct attach to Sun StorEdge tape libraries and disk arrays, including: Sun StorEdge 3000, 6000, and 9000 families, providing excellent linear scalability. |
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Performance

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| Overall system bandwidth | Up to 172.8-GB/sec. aggregate, up to 115.2-GB/sec. peak, up to 43.2-GB/sec. sustained |
| Overall I/O bandwidth | Up to 25.2-GB/sec. sustained |

Availability

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| 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

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

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| Standard | Sun's fifth-generation Dynamic System Domains, Solaris Resource Manager, and Bandwidth Manager |
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Software

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| Operating system (minimum version) | The minimum OS version for 1.5GHz UltraSPARC IV+ processors is Solaris 9 9/05 and Solaris 10 3/05 HW1 The minimum OS version for UltraSPARC IV processors is Solaris 8 2/04, Solaris 9 4/04, and Solaris 10 3/05 |
| Languages | C, C++, Pascal, FORTRAN, Java |
| Networking | ONC™/NFS, TCP/IP, SunNet™ OSI, X.25 Start, DCE, Netware |
| System management | Sun MC 3.5 Version 4; SMS 1.4.1 (or later) |
| Network/file system | Sun QFS, Sun ZFS (future Solaris 10 release), VERITAS Volume Manager, VERITAS File System |

Environmental

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| 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) at 45% noncondensing humidity |
| Range | 10° C to 35° C (50° F to 90° F) at 20% to 80% noncondensing humidity |
| Altitude | Up to 3048 m (10000 ft.) |

Regulations (meets or exceeds the following requirements)

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| 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 & 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, -4-6, -4-8, -4-11, EN300-386 |
| Regulatory markings | FCC, ICES-003, CE, C-tick, VCCI, GOST-R, BSMI, UL/cUL, TUV-GS, MIC |

Key RAS Features

Full hardware redundancy, fault-isolated Dynamic System Domains, Dynamic Reconfiguration (DR), 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.

Upgrades

The Sun Upgrade Advantage Program (UAP) offers trade-in value for qualified Sun and competitive servers toward the purchase of replacement Sun Fire E25K server(s). 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 system components, including processor/memory boards and I/O.

Dimensions and Weight

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| Height | 191 cm (74.75 in.) |
| Width | 85 cm (33.25 in.) |
| Depth | 166 cm (65.0 in.) |
| Weight | 1122 kg (2468 lb.) fully configured |

Remote Services

SRS Net Connect

Services

Sun provides a worldwide services portfolio that helps enable customers to develop a Sun Fire E25K solution designed for reliability, availability, serviceability, and growth. Sun can assist you to build an architecture plan, assess your current IT infrastructure, improve staff skills and efficiencies, and properly install your Sun Fire E25K system in your environment. Services highlights include: Sun Preventive Services, Enterprise Installation Services, Learning Services, Architecture Services, Migration/Consolidation Services, Sun Managed Services, and the Accredited Installation Provider program. For more information on Sun Services, please visit www.sun.com/service.

Get the details on how the Sun Fire E25K combines high-volume, mission-critical computing with leading investment protection and headroom to grow. Contact your Sun Representative at 1-800-555-9SUN, or visit sun.com/servers/highend/sunfire_e25k.