Reliable
High Performance
Intel® Xeon®
Rackmount Solutions

Rackable™ Stadard-Depth Servers

KEY FEATURES

Top performance with Intel® Xeon® Processors

Full range of quad- and six-core processor configurations for up to 1104 cores per cabinet

Perfect for hot aisle/cold-aisle data centers

Industry-standard 19" rack compatible

Eco-Logical™ AC power technologies reduce heat output and power costs

Outstanding combination of price, capacity, and performance

Integrated IPMI lights-out remote management

Ships fully cabled and racked for quick, easy, plug-and-play deployment

SGI Rackable™ standard-depth, rackmount servers and clusters deliver top value and performance, based on the winning combination of the latest Intel® Xeon® Processor 5600 series-based architecture and SGI expertise in designing and delivering the most advanced performance computing systems available. Rackable servers support up to 144GB of memory per node in an ultra-dense architecture with up to 24 cores in a slim 1U form factor. Add to this support for up to 40 Gb/sec QDR InfiniBand, six-core processors and DDR3 memory, and you have some of the most powerful cluster solutions available.

Flexible, High Density Configurations

Rackable standard-depth servers mount in industry-standard 19" racks, achieving high density levels of up to 92 dual-processor servers per 46U rack. With the ability to support today's fastest six-core Intel® Xeon® processors, one cabinet can deliver the compute power of—and effectively cool—1104 processing cores.

Rackable C2112 compute nodes deliver the ultimate in cluster density, packing four 12-core nodes into a slim 2U form factor with shared power and cooling. The powerful XE270 and XE500 are ideal cluster head nodes or stand-alone departmental servers, offering additional extensibility and I/O options. Rackable servers run industry-standard operating systems, with a choice of SUSE® Linux Enterprise Server, Red Hat® Enterprise Linux® or Microsoft® Windows® HPC Server 2008. In addition, the SGI® ProPack™ 6 for Linux® includes resource management tools and enhanced development libraries like Flexible File Input/Output (FFIO) which provides programmers with fine-grained control of I/O transfers to maximize performance.

Leading Efficiency

SGI's unique approach to thermal management begins with each component inside our servers. Leveraging high-efficiency power supplies, memory, and Intel® Xeon® 5600 series processors, our Eco-Logical™ solutions draw the lowest possible wattage and reduce heat output. Our award-winning power reduction techniques enable any legacy data center to immediately take advantage of reduced power costs.

Simplified Serviceability

Time-saving IPMI 2.0 remote management technology helps reduce administrative resources and overhead. A single, highly intuitive interface provides effortless local or remote control with total lights-out management.

World-Class Service and Support

SGI products are fully backed by a range of warranty and support offerings, and our Professional Services team is available to help with solutions outside traditional support packages in areas ranging from HVAC, power and network design to customer-specific operating system solutions.

Rackable Standard-Depth Servers

Reliable, High Performance Intel® Xeon® Rackmount Solutions

Configuration Specifications

www.sgi.com/servers

SERVER	C1103	Altix XE 340	Altix XE 270	C2112	Altix XE 500
Model Number(s)	C1103-TY12	Altix XE 340	Altix XE 270	C2112-4TY14	Altix XE 500
Chassis Profile	1U standard-depth	1U standard-depth	2U standard-depth	2U standard-depth	3U standard-depth
Servers/System	One dual-socket	Two dual-socket	One dual-socket	Four dual-socket (hot-pluggable)	One dual-socket
Chipset	Intel 5520	Intel 5520	Intel 5520	Intel 5520	Two Intel 5520
Max. Processors	Two Intel® Xeon® quad- or six-core 5500 or 5600 series	Four Intel® Xeon® quad- or six-core 5500 or 5600 series (two/server)	Two Intel® Xeon® quad- or six-core 5500 or 5600 series	Eight Intel® Xeon® quad- or six-core 5500 or 5600 series (two/server)	Two Intel® Xeon® quad- or six-core 5500 or 5600 series
Max. Cores	12	24 (12/server)	12	48 (12/server)	12
Max. Memory	96GB in 12 slots	192GB in 24 slots (96GB and 12 slots/server)	144GB in 18 slots	384GB in 48 slots (96GB and 12 slots/server)	144GB in 18 slots
Memory Type	1333/1066/800 MHz DDR3 ECC reg.	1333/1066/800 MHz DDR3 ECC reg.	1333/1066/800 MHz DDR3 ECC reg.	1333/1066/800 MHz DDR3 ECC reg.	1333/1066/800 MHz DDR3 ECC reg.
Max. Hard Disk Drives & Max. Capacity	Three 3.5" (max. 6TB) SAS or SATA II hot-swap drives	Four 3.5" (max. 8TB) SAS or SATA II hot-swap drives (two/server)	Eight 3.5" (max. 16TB) SAS or SATA II hot-swap drives	Twelve 3.5" (max. 24TB) SAS or SATA II hot-swap drives (three/server)	Eight 3.5" (max. 16TB) SAS or SATA II hot-swap drives
RAID Card Levels (Optional)	JBOD, 0, 1, 10	JBOD, 0, 1 (LSI SAS3041)	JBOD, 0, 1, 5, 6, 10	JBOD, 0, 1, 5	JBOD, 0, 1, 5, 6, 10
Expansion Slots	• Two PCI-E 2.0 x16, or • One PCI-E 2.0 x16 and two PCI-E 2.0 x8, or • Four PCI-E 2.0 x8. Additional PCI-E 2.0 x4 low-profile slot available in all three configurations.	Two low profile PCI-E 2.0 x16 on risers (one/server)	Two PCI-E 2.0 x8, one PCI-E x4 and two PCI-X 133	Four PCI-E 2.0 x16 low-profile (one/server)	Two PCI-E 2.0 x16, four PCI-E 2.0 x8 and one PCI-E 2.0 x4 (dedicated to SAS RAID card)
Networking, Onboard	Dual GigE (Intel 82576)	Dual GigE (Intel 82576)/server and optional QSFP DDR or QDR (Mellanox ConnectX)/server	Dual GigE (Intel 82576)	Dual GigE (Intel 82574L) and optional QSFP QDR InfiniBand (Mellanox ConnectX)/server	Dual GigE (Intel 82576)
IPMI Remote Management (Optional)	Integrated IPMI 2.0	Integrated IPMI 2.0 + Keyboard, Video and Mouse (KVM)	Integrated IPMI 2.0 + Keyboard, Video and Mouse (KVM)	Integrated IPMI 2.0 + Keyboard, Video and Mouse (KVM)	Integrated IPMI 2.0 + Keyboard, Video and Mouse (KVM)
Power Supply	Auto-switching 100–240 VAC (50–60Hz)	Auto-switching 100–240 VAC (50–60 Hz)	720W 1+1 redundant auto-switching 100–240 VAC (50–60 Hz)	1200–1400 1+1 redundant auto-switching 100–240 VAC (50–60 Hz)	800W 1+1 redundant auto-switching 100–240 VAC (50–60 Hz)
Chassis Mount	Standard 19" rack compatible rail mount	Standard 19" rack compatible rail mount	Standard 19" rack compatible rail mount	Standard 19" rack compatible rail mount	Standard 19" rack compatible rail mount
Dimensions (HxWxD)	1.7" x 17.2" x 28.2"	1.7" x 17.3" x 27.8"	3.4" x 16.9" x 27.8"	3.5" x 17.2" x 28.5"	5.2" x 17.7" x 25.6"

Rackable Server Software Support

System Software	• SUSE® Linux® Enterprise Server 10 or 11, Red Hat® Enterprise Linux® 5 or Microsoft® Windows HPC Server 2008 • SGI ProPack™ 6 for Linux®
Software Solution Stack	• Cluster Management Software: SGI ISLE™ Cluster Manager: Platform™ Manager • Job Scheduling/ Workload Management: Altair® PBS Professional™ • Fabric Management: SGI InfiniBand Fabric Management (based on OFED) • Filesystem: XFS™ 64-bit journaled file system (avail. on SUSE Linux OS), CXFS™ shared filesystem for SANs
Development Tools	• Programming Languages: Intel C++ Compiler, Intel Fortran Compiler, GNU compilers • Debuggers: Intel Debugger (idb) included with Intel compilers, GNU Debugger (GDB), TotalView Technologies TotalViewDebugger, TotalView Technologies MemoryScape, Allinea DDT, Intel Thread Checker • Libraries: Intel Math Kernel Library, Intel Integrated Performance Primitives, Intel Threading Building Blocks • Parallel Programming: SGI Message Passing Toolkit, SGI Array Services and Secure Array Services, Intel MPI Library, Platform MPI, OpenMP included with Intel compilers, OpenMPI, Intel Cluster OpenMP, Intel Trace Analyzer and Collector, TotalView Technologies TotalView Debugger, Allinea DDT, Interactive Supercomputing Star-P • Performance Analysis: Intel VTune Performance Analyzer, Intel Trace Analyzer & Collector

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