SGI® Altix® 330 Server

SGI quality server at an affordable price point, with exceptional performance, scalability and flexibility

Features

- SGI® Altix® quality and performance in a cost effective, ultra dense platform
- Scalable entry-level system, from one to 16 processors and up to 128GB of memory
- Seamless growth path, with the flexibility to scale to meet future processing requirements
- An open, standards-based system that supports major HPC applications for lower risk and maximum investment protection

SGI® Altix® Quality & Performance in a Cost Effective, Ultra Dense 1U Platform

The SGI Altix 330 server extends SGI's award-winning Altix product line with an affordable, entry-level system that provides customers with a scalable solution for departmental, database and cluster applications. The Altix 330 server incorporates the shared memory NUMAflex™ architecture, which lowers cost by supporting more demanding workloads and running complex models and analytics for overall shorter time to solution. Productivity is increased by achieving maximum performance on all your data with the ultra-fast bandwidth of the 6.4GB/second NUMAlink™ 4 interconnect. Combining the NUMAflex architecture and the high performing Intel® Itanium® Processor, the Altix 330 server provides leading price/performance in an ultra dense 1U form factor.

Scalable Entry-Level System, from One to 16 Processors and up to 128GB of Memory

SGI's high performance NUMAflex architecture enables the SGI Altix 330 server to scale from one to 16 Intel Itanium 2 Processors and up to 128GB of shared memory. Scaling up to 16 processors in a single system image means that customers spend less on software licensing costs. Users can easily extend the Altix 330 server with workgroup JBOD and RAID storage, including the SGI® InfiniteStorage S330 Storage Array, which scales from 2.8TB to over 16TB, plus support for the latest SAS drive technology. This level of scalability enables the Altix 330 server to handle complex problems with minimal interprocessor communication overhead.

Seamless Growth Path, with the Flexibility to Scale to Meet Future Processing Requirements

The SGI Altix 330 server is easy to deploy and administer, with the flexibility to address changing business requirements by scaling up and/or out as needed. With the ability to "start small" and extend processing power, memory, and I/O as needed, Altix 330 is able to efficiently support demanding departmental level applications and complex workloads. Customers can easily extend their Altix 330 server with enhanced I/O capacity by adding a PCI-X expansion module, addressing the requirements of I/O-intensive applications without having to buy additional processors or memory. For customers that require the ultra-scalability of the larger SGI Altix 350 or SGI Altix 3700 Bx2 systems, Altix 330 provides an ideal development platform, with a straightforward transition path for future growth. This flexible growth path enables customers to adjust system configurations to meet current and changing requirements easily and cost-effectively—with minimum risk and maximum ease of use.

An Open, Standards-Based System that Supports Major HPC Applications for Lower Risk and Maximum Investment Protection

Based on Intel Itanium 2 Processors as well as industry standard memory modules and interconnects, the Altix 330 server fits easily into mixed HPC environments. Intel Itanium 2 Processors offer exceptional price/performance for intensive workloads, achieve top performance on a variety of industry benchmarks and provide balanced performance that drives fast throughput for technical solutions. The SGI Altix platform is 100% Linux® operating system-based, and SGI has made significant contributions and enhancements to the Linux code base. The Altix 330 server supports the Red Hat® Enterprise Linux® Advanced Server 4 and Novell® SUSE® LINUX Enterprise Server 9 operating systems, with the option of turbo-charging HPC applications with SGI ProPack™ software feature for the SUSE LINUX OS. Users can use their Linux operating system of choice and take advantage of a broad variety of open source utilities and developer talent. They can also take advantage of the wealth of 64-bit Linux applications available in the commercial and open-source communities and the hundreds of HPC applications certified and/or enhanced specifically for the Altix platform.

SGI® Altix® 330 Server

Base System

Processors

- Up to two Intel Itanium 2 Processors
- CPU clock rates/cache size

Speed	L3 Cache
1.6 GHz	6.0MB
1.5 GHz	4.0MB
1.3 GHz	3.0MB (2 CPU max. per SSI)

Memory

- Up to 16GB per 1 to 2 processor system
- Memory sets

Kits	DIMMs
2GB	4 x 512MB
4GB	4 x 1GB
8GB	4 x 2GB

Internal Storage

Up to 500GB (SATA2) or 292GB (SAS) disk storage per system

- 1 or 2 SATA2 250GB/7200 RPM hard drive(s)
- 1 or 2 SAS 146GB/15K RPM hard drive(s)
- 1 DVD-ROM drive

Expansion

I/O Ports

- 1 full-size 64-bit/133 MHz 3.3V PCI-X slot
- 2 Gigabit Ethernet ports
- 2 USB 2.0 ports
- 1 external SAS/SATA2 port
- 1 USB L1 system management port

PCI-X Expansion Module (PA-Brick)

- Interface: 64-bit/133 MHz PCI-X buses, 3.3V and Universal 64-bit/66 MHz PCI-compatible
- Number of buses: 4
- Number of slots: 6 (2 per bus) full-length; max. 1 per bus for 133 MHz PCI-X cards

Interconnects

- NUMALink™ 4
- InfiniBand™ 4x
- Gigabit Ethernet
- 10 Gigabit Ethernet

Configurations

Stand-Alone

- 1 or 2 Intel Itanium 2 Processors
- Up to 16GB memory
- Up to 500GB (SATA) or 292GB (SAS) disk storage
- Max. 1 PA-Brick per server

With an 8-port NUMAlink router

- Up to 16 Intel Itanium Processors
- Up to 128GB memory
- Up to 4TB (SATA) or 2.3TB (SAS) disk storage
- NUMAlink 4 router
- NUMAlink 4 cable
- Max. 2 PA-Brick

Max NUMAlink configuration without router

- 2 systems connected to create 4 processor using a Numalink 4 cable
- Up to 4 Intel Itanium Processors
- Up to 32GB memory
- Up to 1TB (SATA) or 584GB (SAS) disk storage
- Max. 1 PA-Brick connected to one or two servers

External Storage Options

Data Servers

- SGI® InfiniteStorage NAS 330 (Gigabit Ethernet)

JBOD

- SGI® InfiniteStorage TP900 (Ultra320 SCSI)

RAID

- SGI® InfiniteStorage S330 storage array (2Gbit Fibre Channel)

Tape and libraries

StorageTek® line of tape libraries

Dimensions and Weights

Modules

- 1U (1.7"H x 17.50"W x 31.75"D with Bezel)
- Weight: 31 lbs

Short rack

- 17U (36.06"H x 25.38"W x 41.63"D)
- Maximum shipping weight: 610 lbs
- 19-inch EIA standard (Non-locking front door - no rear door)

Tall rack

- 39U (75.82"H x 23.62"W x 41.25"D)
- Maximum shipping weight: 1547 lbs
- 19-inch EIA standard (Non-locking front door - no rear door)

Environmental (Operating)

Temperature

- +5C to +35C, altitude 5000 MSL
- +5C to +30C, altitude 10000 MSL

Environmental (Non-operating)

Temperature

- -40C to +60C

Humidity

- 10% to 95% noncondensing

Altitude

- 40,000 MSL

Electrical and Power

Power supply

- One standard 550W power supply per server

Voltage

- 100-240 VAC (North America/Japan); 230 VAC (International)

Power requirements (max)

- Short rack: 8.5kW
- Tall rack: 19.5kW

Software

Operating System

- SUSE LINUX Enterprise Server 9 with Service Pack 2
- SUSE LINUX Enterprise Server 9 with SGI ProPack 4
- Red Hat Enterprise Linux Advanced Server 4
- SGI Advanced Linux® Environment with SGI ProPack 3[1]

Optional Host Storage Software

- XVM
  Volume Manager for SGI systems, a virtualization technology to organize logical data structures for high performance and ease of management
- XVM Plex
  Provides disk striping, mirroring, concatenation and advanced recovery features
- XFS®
  High-performance, 64-bit journaled filesystem for SGI® IRIX® and Linux system platforms
- CXFS™
  Heterogeneous shared filesystem for storage area networks; eliminates the need for replication data across a SAN by allowing multiple heterogeneous systems to share one scalable filesystem
- DMF
  Data lifecycle management policy automation software; DMF automates data placement among storage devices to achieve maximum reduction of total cost of ownership while appropriately managing data based on its value over time

Networking

- TCP/IP, NFS V2/V3, DHCP, SNMP management, SNMP MIB, NIS/ONC+

Compilers

- Intel C++ Compiler for Linux
- Intel Fortran Compiler for Linux
- GNU Compiler for C and Fortran 77

Tools

Libraries

- SGI Message Passing Toolkit (MPT)
- SGI Scientific Computing Software Library (SCSL)
- SGI Flexible File Input/Output (FFIO)
- Intel Math Kernel Library (Intel MKL)
- Intel Integrated Performance Primitives (Intel IPP)

Debuggers

- Intel Debugger
- Etnus® TotalView®
- GNU GDB
- Allinea Software Distributed Debugging Tool (DDT)

Performance and Application Analysis Tools

- Intel VTune™ Performance Analyzer
- Intel Trace Analyzer and Intel Trace Collector
- SGI Performance Co-Pilot™
- SGI pfmon and profile.pl
- SGI Histx

Automated Parallelization Tools

- Parallel Software Products ParaWise

Open Source Development Tools

- Linuxapps, Freshmeat.net, SourceForge®

Support and Services

SGI provides full support for Altix 330 server, its hardware and its system software. SGI also offers services to implement and integrate Linux applications in your environment. For more information, please contact your SGI representative.

[1] The SGI Advanced Linux® Environment with SGI ProPack 3 operating system is in "Maintenance Support" mode. Additionally, for the SGI Altix 330 server, SGI will not pursue ISV software product certifications for the SGI Advanced Linux Environment with SGI ProPack 3 Operating System.

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