Xserve

Quad Xeon 64-bit server with Mac ease of use.

Base Configuration

- Two 2.0GHz Dual-Core Intel Xeon 5100 processors
- 4MB shared L2 cache per processor
- 1.33GHz frontside bus per processor
- 1GB of 667MHz DDR2 ECC FB-DIMM memory
- Three drive bays with one 80GB SATA drive installed[1]
- Combo drive (DVD-ROM/CD-RW)
- Built-in ATI Radeon X1300 PCI Express graphics with 64MB of GDDR3 SDRAM
- Two built-in Gigabit Ethernet interfaces (10/100/1000BASE-T)
- Two PCI Express slots: one eight-lane PCI Express and one configurable as eight-lane PCI Express or 133MHz PCI-X[2]
- Two FireWire 800, two USB 2.0, and one DB-9 serial port on back panel; one FireWire 400 port on front panel
- Mac OS X Server version 10.4 Unlimited-Client Edition
- 90 days of telephone support and one-year limited warranty; optional extended service and support products

Configuration Options

- Two 2.66GHz or 3.0GHz Dual-Core Intel Xeon 5100 processors
- Up to 32GB of ECC FB-DIMM memory
- Any combination of SATA or SAS Apple Drive Modules: up to 2.25TB using three 750GB SATA drive modules; or up to 900GB using three 300GB SAS drive modules[1]
- SuperDrive (DVD+R DL/DVD±RW/CD-RW)
- PCI Express and PCI-X expansion cards
- Second load-sharing 650W power supply

Apple's fifth-generation 1U server, the new Xserve combines quad-core 64-bit Intel Xeon processing with a high-bandwidth architecture, resulting in a tremendous performance leap over the Xserve G5 and outshining competitors in its class. Power meets versatility and value in this feature-rich server, thanks to an unlimited-client license for Mac OS X Server and its suite of open standards–based services. Whether in businesses, creative departments, schools, or research centers, Xserve and Mac OS X Server are the perfect platform for serving Mac workgroups of any size.

Key Features

Quad-core 64-bit Xeon processing up to 3.0GHz. Delivering up to five times the performance of Xserve G5,[3] the new Xserve comes with two power-efficient Dual-Core Intel Xeon 5100 processors, each with a dedicated frontside bus running at 1.33GHz.

High-bandwidth FB-DIMM memory subsystem. A 256-bit memory controller with four FB-DIMM channels provides massive throughput to main memory, delivering up to 21.3GB/s to the system. Xserve supports up to 32GB of 667MHz DDR2 memory with advanced data protection and Error Correction Code (ECC) features.

PCI Express expansion. Two open PCI Express slots, each eight lanes wide, provide independent throughput of up to 2GB/s each. One slot can be configured as a PCI-X slot for compatibility with existing expansion cards.[2]

Hot-plug SATA and SAS storage. Three drive bays support any combination of SATA (Serial ATA) and SAS (Serial Attached SCSI) Apple Drive Modules. Choose massive 750GB SATA drives for capacity up to 2.25TB or 15,000-rpm SAS drives for the highest performance available today. Optional expansion cards connect to external storage and backup devices, including Apple's Xserve RAID for up to 7TB of capacity.[1]

Remote lights-out management. Control Xserve from your office or around the world—thanks to an integrated processor for lights-out management and powerful, easy-to-use Server Monitor and Server Admin software.

Hardware redundancy. Keep your services up and running with optional load-sharing power supplies, advanced ECC FB-DIMM memory modules, hot-plug hard drives, and built-in software RAID.

UNIX-based operating system. An unlimited-client license for Mac OS X Server, Apple's UNIX-based server operating system, is included at no additional cost. Built on open standards, Mac OS X Server integrates seamlessly into existing computing infrastructures.

Comprehensive service and support. To ensure rapid issue resolution for your server and storage deployments, choose from a full range of AppleCare products designed to provide expert support—with only one number to call for help.

Dual-Core Intel Xeon 5100 processors

The first 64-bit processors based on Intel's next-generation microarchitecture, the Xeon 5100 series combines phenomenal performance with ultraefficient power consumption. Available at speeds from 2.0GHz to 3.0GHz, each processor features a fast 1.33GHz frontside bus and 4MB of shared L2 cache.

High-density rackmount 1U design

With breakthrough processing power and enormous storage in a compact 1U enclosure, Xserve is designed for performance, serviceability, and easy integration into a wide range of computing environments.

Xserve RAID

Connect Xserve to Apple's affordable Xserve RAID storage solution for massive capacity—up to 7TB[1]—and advanced data protection in a high-availability 3U enclosure.

Technical Specifications

Processing

- Two 2.0GHz, 2.66GHz, or 3.0GHz Dual-Core Intel Xeon 5100 processors
  - Wide dynamic execution
  - Intelligent power capability
  - 4MB Advanced Smart Cache per processor
  - Smart Memory Access
  - Advanced Digital Media Boost
- Independent 1.33GHz frontside bus per processor

Memory

- Advanced 256-bit-wide memory architecture with four fully buffered DIMM (FB-DIMM) channels
  - ECC (Error Correction Code) logic with on-demand error scrubbing
  - CRC (cyclic redundancy check) protection for commands and data
- Eight DIMM slots supporting up to 32GB of 667MHz DDR2 ECC memory using the following (pairs required; four or eight identical DIMMs recommended for best performance):
  - 512MB FB-DIMMs
  - 1GB FB-DIMMs
  - 2GB FB-DIMMs
  - 4GB FB-DIMMs

I/O connections

- Two open PCI Express expansion slots: one half-length (6.6-inch) x8 PCI Express slot and one 9-inch configurable slot (x8 PCI Express or 133MHz PCI-X)[2]
- PCI Express and PCI-X cards available from Apple:
  - Apple Fibre Channel PCI Express Card
  - Apple Dual-Channel Gigabit Ethernet PCI Express Card
  - Apple Dual-Channel Ultra320 SCSI PCI-X Card
  - ATI Radeon X1300 PCI Express graphics card with 256MB of DDR2 memory and dual-link DVI port
- Two independent 10/100/1000BASE-T (Gigabit) RJ-45 Ethernet interfaces on main logic board
- Built-in ATI Radeon X1300 PCI Express graphics board with 64MB of GDDR3 memory and single-link mini-DVI port; mini-DVI to VGA adapter included
- Two FireWire 800 ports on back panel and one FireWire 400 port on front panel; 15W total power
- Two USB 2.0 ports (480Mb/s each)
- One DB-9 serial port (RS-232)

Storage

- Three internal drive bays with independent SATA and SAS channels, up to 3Gb/s each
- Up to 2.25TB of hot-plug internal storage using SATA Apple Drive Modules or up to 900GB using SAS Apple Drive Modules;[1] Apple Drive Modules are server-class rated for 24/7 operation and are available in the following capacities:
  - 80GB 7200-rpm SATA with 8MB disk cache
  - 750GB 7200-rpm SATA with 16MB disk cache
  - 73GB 15,000-rpm SAS with 16MB disk cache
  - 300GB 15,000-rpm SAS with 16MB disk cache
- Support for reading SMART data from Apple Drive Modules for prefailure notification
- Slot-loading Combo drive (DVD-ROM/CD-RW) or SuperDrive (DVD+R DL/DVD±RW/CD-RW)

Rack support

- Fits EIA-310-D–compliant, industry-standard four-post racks and cabinets: 19 inches wide; 24 to 36 inches deep
- Front-to-back cooling for rack enclosure

Electrical

- Output power: 650W
- Optional second load-sharing 650W power supply for redundancy
- Line voltage: universal input (100V to 240V AC), power factor corrected
- Maximum input current: 8.0A (100V to 120V) or 4.0A (200V to 240V); current is shared when system is configured with two power supplies
- Frequency: 50Hz to 60Hz, single phase

Environmental

- Operating temperature: 50° to 95° F (10° to 35° C)
- Storage temperature: –40° to 116° F (–40° to 47° C)
- Relative humidity: 5% to 95% noncondensing
- Maximum altitude: 10,000 feet
- FCC Class A approved

Size and weight

- Height: 1.73 inches (4.4 cm)
- Width: 17.6 inches (44.7 cm) for mounting in standard 19-inch rack
- Depth: 30 inches (76.2 cm)
- Weight: 31.7 pounds (14.4 kg) for base configuration; 38.3 pounds (17.4 kg) for system with eight FB-DIMMs, three 300GB SAS Apple Drive Modules, and two power supplies[4]

For More Information

For more information about Xserve, Xserve RAID, Mac OS X Server, Xsan, and other Apple server solutions, visit www.apple.com/server.

For more information on AppleCare service and support products, visit www.apple.com/support/products.

[1]For hard drive capacity measurements, 1GB = 1 billion bytes and 1TB = 1 trillion bytes; actual formatted capacity less. Maximum capacity of 2.25TB achieved through use of three 750GB Apple Drive Modules. [2]Check with manufacturer for compatibility. [3]Based on tests conducted by Apple in October 2006 using preproduction quad 3.0GHz Xeon-based Xserve units and shipping dual 2.3GHz Xserve G5 units. Estimated SPECint_rate_base2000 score: 112.0. Estimated SPECfp_rate_base2000 score: 76.2. See www.spec.org for more information. [4]Weight varies by configuration and manufacturing process.