

HP NetServer LS Series



Scalable servers for business-critical applications

HP NetServer 5/100 LS, LS2, LS4
 HP NetServer 5/133 LS, LS2, LS4
 HP NetServer 5/166 LS, LS2, LS4

These high-end servers deliver the high levels of manageability, availability, and performance required by business-critical environments.

Designed to meet the demanding needs of upsizers and LAN expanders, the HP NetServer LS offers up to four-way symmetric multiprocessing (SMP), large dedicated cache, and the industry-leading Extended Express Architecture (XXpress). Dual PCI peer buses with concurrent operation deliver blazing I/O performance.

A hot-swap disk subsystem with internal disk duplexing ensures maximum uptime—failed disks can be replaced without compromising availability.

Advanced server setup and management tools on a bootable CD-ROM ensure easy installation, configuration, and administration.

Product Highlights

Benefit	Features
Scalable, superserver performance	<ul style="list-style-type: none"> • Support for up to four-way symmetric multiprocessing (SMP) on Pentium® 100MHz, Pentium 133MHz, and Pentium 166MHz processors • XXpress architecture with clock-independent 64-bit system bus, dual PCI peer buses, and concurrent bus operation • 512KB and 1MB external write-back caches per processor • Integrated dual PCI Fast and Wide SCSI-2 controllers
Maximum system uptime and data protection	<ul style="list-style-type: none"> • Fast disks and network cards for maximum I/O throughput • Fast and Wide SCSI-2 drives in RAID levels 0, 1, 5, and 6 • Hot-swap drives and automatic data reconstruction in the event of failure • Error Checking and Correcting (ECC) memory • Automatically resets and reboots upon NOS hang • Service and support available from HP or authorized resellers
Building on HP NetServer manageability	<ul style="list-style-type: none"> • HP NetServer Navigator bootable CD-ROM with configuration, installation, and management tools; includes HP NetServer Assistant server management software for proactive alerting and problem resolution

Product Features

Processor Upgrade	Two processor card slots to accommodate single Pentium 100MHz, 133MHz, and 166MHz or Dual Pentium 100MHz, 133MHz, and 166MHz SMP processor cards
System Architecture	XXpress architecture ♦ Clock-independent, 64-bit system bus
Expansion Slots	Up to nine bus master slots (when one processor slot used): three PCI, four EISA, two shared PCI/EISA Up to eight bus master slots (when two processor slots used): two PCI, four EISA, two shared PCI/EISA
HP Disk Array (With Model 1 Array)	PCI Disk Array Controller with dual Fast and Wide SCSI-2 channels, based on i960 processor with 4MB cache ♦ Hot-swap and hot-spare capabilities ♦ Support for RAID 0, 1, 5, and 6 (logical combination of RAID 0 and 1)
SCSI	Two PCI Fast and Wide SCSI-2 controllers, integrated on system board
Mass Storage Subsystems	Eight front-accessible, half-height shelves: one for CD-ROM included, one standard half-height, six hot-swap shelves (must use hot-swap drives); one 3.5-inch flexible disk drive
Disk Drives	One 1.44MB flexible disk drive and one quad-speed CD-ROM drive included
Built-In I/O Ports	PCI Fast and Wide external SCSI-2 port (included on Model 1 Array only) ♦ One 25-pin parallel port Two serial 9-pin RS-232 ports ♦ Video port ♦ Mini-DIN keyboard and mouse port
Video	Integrated 1024x768, 16-color, noninterlaced ♦ 512KB standard video memory (upgradable to 1MB) Super VGA drivers available with operating system or from HP electronic support services
Keyboard and Mouse	Localized keyboard and two-button mouse
Installation and Configuration Management	HP NetServer Navigator bootable CD-ROM includes: <ul style="list-style-type: none"> Automated, menu-driven installation and configuration application that helps you install, configure/reconfigure, and optimize the performance of the HP NetServer LS Server management software that provides monitoring, proactive alerting, and problem identification for subsystems such as SCSI controllers, hard disk drives, ECC memory, and uninterruptible power supplies; includes HP OpenView for Windows® network management platform Intelligent information retrieval system for quick access to information on HP NetServers and accessories, network operating system installation and tuning, and product service and support Easy-to-use diagnostic tool for system verification and rapid troubleshooting of hardware issues, such as incorrect SCSI cabling and termination
Supported Operating Systems	Banyan® VINES®, IBM® OS/2® Warp and LAN Server, Microsoft® MS-DOS®, Microsoft Windows® NT™ Server, Novell® NetWare®, Novell NetWare SFT™III, SCO® OpenServer™, SCO UnixWare®
Supported SMP Operating Systems	IBM OS/2 SMP and LAN Server, Microsoft Windows NT Server, SCO MPX®, and SCO UnixWare
HP Advanced Cooling System	Dual fans provide extra cooling for internal components; superior air-flow design
Rackmounting	Rackmountable in standard 19-inch rack ♦ Coordinated racks and accessories are available from HP
Security	Startup password ♦ Network server mode ♦ Keyboard lock button with optional screen blanking ♦ Server casE lock ♦ EISA configuration protection password ♦ Enable or disable serial port, flexible disk drives, and write operations to flexible disk drive
Service and Support	<ul style="list-style-type: none"> Three-year, next-business-day, on-site limited warranty from HP or authorized resellers (standard business hours) Optional 4-hour response during standard business hours, or 7 days a week, 24 hours a day available as HP SupportPack from resellers Free telephone support for basic setup, installation, and troubleshooting in U.S., Canada, and Europe during warranty Network phone-in support (advanced NOS and network support) available in U.S., Canada, Europe, and Australia as optional HP SupportPack from resellers HP NetServer Compatibility Evaluation Guarantee
Accessories	For information on ordering HP accessories, see the HP NetServer Order Assistant available on the HP WWW; http://www.hp.com/go/netserver or through an HP sales representative or reference an HP Configuration Guide.

Configuration and Models



	Model	Processor	Cache	ECC Memory	Product No.
HP NetServer 5/100 LS	Model 1	Pentium 100MHz	512KB	32MB	D3334A
	Model 1 Array	Pentium 100MHz	512KB	32MB	D3337A
HP NetServer 5/100 LS2*	Model 1	Dual Pentium 100MHz	2 x 1MB	64MB	D3338A
	Model 1 Array	Dual Pentium 100MHz	2 x 1MB	64MB	D3339A
HP NetServer 5/100 LS4*	Model 1	Quad Pentium 100MHz	4 x 1MB	64MB	D3338A + D3575A**
	Model 1 Array	Quad Pentium 100MHz	4 x 1MB	64MB	D3339A + D3575A**
HP NetServer 5/133 LS	Model 1	Pentium 133MHz	512KB	32MB	D3605A
	Model 1 Array	Pentium 133MHz	512KB	32MB	D3607A
HP NetServer 5/133 LS2*	Model 1	Dual Pentium 133MHz	2 x 1MB	64MB	D3608A
	Model 1 Array	Dual Pentium 133MHz	2 x 1MB	64MB	D3609A
HP NetServer 5/133 LS4*	Model 1	Quad Pentium 133MHz	4 x 1MB	64MB	D3608A + D3614A**
	Model 1 Array	Quad Pentium 133MHz	4 x 1MB	64MB	D3609A + D3614A**
HP NetServer 5/166 LS	Model 1	Pentium 166MHz	1MB	64MB	D4300A
	Model 1 Array	Pentium 166MHz	1MB	64MB	D4301A
HP NetServer 5/166 LS2	Model 1	Dual Pentium 166MHz	2 x 1MB	64MB	D4304A
	Model 1 Array	Dual Pentium 166MHz	2 x 1MB	64MB	D4305A
HP NetServer 5/166 LS4	Model 1	Quad Pentium 166MHz	4 x 1MB	64MB	D4304A+ D4307A**
	Model 1 Array	Quad Pentium 166MHz	4 x 1MB	64MB	D4305A+ D4307A**
HP NetServer 5/100 LS	CPU Card	Pentium 100MHz	512KB	—	D3674A
HP NetServer 5/100 LS2	CPU Card	Dual Pentium 100MHz	2 x 1MB	—	D3675A
HP NetServer 5/133 LS	CPU Card	Pentium 133MHz	512KB	—	D3613A
HP NetServer 5/133 LS2	CPU Card	Dual Pentium 133MHz	2 x 1MB	—	D3614A
HP NetServer 5/166 LS	CPU Card	Pentium 166MHz	1MB	—	D4306A
HP NetServer 5/166 LS2	CPU Card	Dual Pentium 166MHz	2 x 1MB	—	D4307A

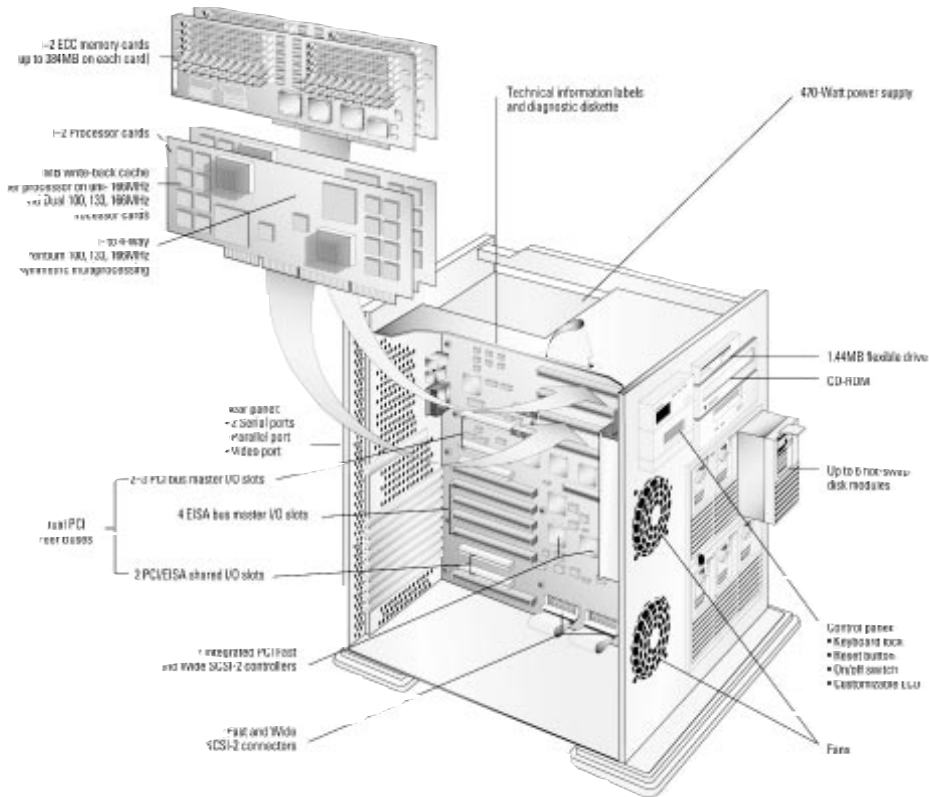
All models except model 1 include a PCI Disk Array Controller.

All 166MHz systems have 4 x 16MB SIMMs. * These systems also have 4 x 16MB SIMMs. ** For LS4 systems, order an HP NetServer LS2 system and an equivalent speed customer-installable Dual Pentium SMP processor board. Three-way SMP is supported.



HP's MAP **strategy ensures that your networking solution delivers the highest levels of Manageability, Availability, and Performance. So you can count on optimum, easy-to-achieve results over the life of your server. Maximum system uptime and data protection in your business-critical environment. And the most advanced technology available today—with plenty of headroom for future growth.**

HP NetServer LS



Regulatory Compliance

Electromagnetic Compliance

CISPR 22 Class B (International)
 EN 55022 Class B (EU Countries)
 EN50082-1, Generic Immunity (EU Countries), includes:
 • IEC 801-2, ESD
 • IEC 801-3, RI
 • IEC 801-4, FT
 FCC Class B Certified*
 M of C Class A (Korea)
 VCCI Class 2 (Japan)

Safety Compliance

CSA Certified (Canada, File LR106647)
 EN 60950 Compliance (International)
 NOM (Mexico)
 TÜV Certified (Germany)
 UL Listed (USA, File E139742)

* FCC ID B94HPLS104

Other Specifications

Operating Temperature	41° to 95° F (5° to 35° C)
Operating Humidity	20% to 80% noncondensing
Acoustic Emissions	Sound level (LpA): <60 dB(A)
Power Supply	Auto-ranging 90 to 135 VAC, or 180 to 265 VAC at 50Hz-60Hz
Power Availability	470W continuous, 530W peak
Power Consumption supply; 815W peak with 110/220V supply	723W maximum with 110/220V supply
System Dimensions	19.3"H x 13.7"W x 18.1"D (49cm x 34.8cm x 46cm)
System Weight	50-70lb (22.7-31.8kg), depending on configuration

For Additional Information

HP WWWeb server	http://www.hp.com/go/netserver
HP NetServer FTP server	ftp://tp.netserver.hp.com
HP NetServer BBS	1-408-553-3500
HP FAX Back system	1-800-333-1917 (U.S.) 1-208-344-4809 (worldwide from fax only)
HP NetServer Literature	1-800-322-4772

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