

## HP NetServer LS Series

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

Scalable servers  
for mission-critical  
applications



## Next-Generation Servers On Which Your Business Can Depend

Does your network run applications that are critical to your business? If so, you can't take a chance on server downtime. With Hewlett-Packard's new HP NetServer LS, you don't have to. We've designed this high-end server to deliver high levels of manageability, availability and performance—the capabilities that mission-critical environments require.

- **Manageability:** For easy installation, configuration and administration, the HP NetServer LS comes standard with HP NetServer Navigator, a family of advanced server setup and management tools on a bootable CD-ROM.
- **Availability:** All models of the HP NetServer LS offer a new hot-swap disk subsystem with a dual SCSI backplane for internal disk duplexing. This subsystem can

also be used with the new HP dual-channel PCI Disk Array Controller—enabling you to replace failed disks without compromising mission-critical application availability.

- **Performance:** Incorporating the industry-leading XXpress architecture and support for up to four-way symmetric multiprocessing, this server is optimised for performance in mission-critical environments.

### HP NetServer LS Benefits and Features

Benefit	Product Feature
Servers that are easy to manage	<ul style="list-style-type: none"> <li>• 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</li> <li>• Optional HP Remote Assistant card for remote diagnostics and environmental monitoring</li> <li>• Optional rack mount solutions to save space in a multi-server environment</li> </ul>
Servers that maximise system availability	<ul style="list-style-type: none"> <li>• HP Dual-channel PCI Disk Array (Fast and Wide SCSI-2) for superior data protection</li> <li>• "Hot-swap" feature allows continuous use while replacing failed drive</li> <li>• Dual SCSI backplane for internal disk duplexing</li> <li>• ECC memory for checking, correcting and reporting memory errors</li> <li>• Unattended, automatic reset and reboot upon NOS hang to get system back up and running quickly</li> <li>• Optional HP PowerWise UPS for maximum network protection</li> <li>• Service and support available from HP or authorised resellers</li> </ul>
Servers that offer high performance	<ul style="list-style-type: none"> <li>• Support for up to four-way symmetric multiprocessing on Pentium™/100 and Pentium/133</li> <li>• XXpress architecture with clock-independent 64 bit system bus, dual PCI peer buses, and concurrent bus operation eliminates performance bottlenecks</li> <li>• 512 KB and 1 MB external write-back caches</li> <li>• Integrated Dual PCI Fast and Wide SCSI-2 controllers</li> <li>• Fast disks and network cards for maximum I/O throughput</li> </ul>

### Configurations and Models

	Model	Processor	Cache	Hard Disk	Disk Array	ECC Memory	Product No.
HP NetServer 5/100 LS	Model 1	Pentium 100MHz	512KB	—	—	32MB	D3334A
	Model 2100	Pentium 100MHz	512KB	2.1GB	—	32MB	D3336A
	Model 1-Array	Pentium 100MHz	512KB	—	PCI Disk Array Controller	32MB	D3337A
	Model 4200A	Pentium 100MHz	512KB	2x2.1GB	PCI Disk Array Controller	64MB	D3626A
	Model 8400A	Pentium 100MHz	512KB	2x4.2GB	PCI Disk Array Controller	64MB	D3627A
HP NetServer 5/100 LS2	Model 1	Dual Pentium 100MHz	2x1MB	—	—	64MB	D3338A
	Model 1-Array	Dual Pentium 100MHz	2x1MB	—	PCI Disk Array Controller	64MB	D3339A
HP NetServer 5/100 LS4	Model 1	Quad Pentium 100MHz	4x1MB	—	—	64MB	D3338A + D3575A*
	Model 1-Array	Quad Pentium 100MHz	4x1MB	—	PCI Disk Array Controller	64MB	D3339A + D3575A*
HP NetServer 5/133 LS	Model 1	Pentium 133MHz	512KB	—	—	32MB	D3605A
	Model 1-Array	Pentium 133MHz	512KB	—	PCI Disk Array Controller	32MB	D3607A
	Model 4200A	Pentium 133MHz	512KB	2x2.1GB	PCI Disk Array Controller	64MB	D3628A
	Model 8400A	Pentium 133MHz	512KB	2x4.2GB	PCI Disk Array Controller	64MB	D3629A
HP NetServer 5/133 LS2	Model 1	Dual Pentium 133MHz	2x1MB	—	—	64MB	D3608A
	Model 1-Array	Dual Pentium 133MHz	2x1MB	—	PCI Disk Array Controller	64MB	D3609A
HP NetServer 5/133 LS4	Model 1	Quad Pentium 133MHz	4x1MB	—	—	64MB	D3608A + D3614A*
	Model 1-Array	Quad Pentium 133MHz	4x1MB	—	PCI Disk Array Controller	64MB	D3609A + D3614A*

\* Order an HP NetServer LS2 system and an equivalent-speed customer-installable Dual Pentium SMP processor board.

## Product Features

<b>Processor</b>	<b>HP NetServer 5/100 LS</b> <b>HP NetServer 5/100 LS2</b> <b>HP NetServer 5/100 LS4</b> <b>HP NetServer 5/133 LS</b> <b>HP NetServer 5/133 LS2</b> <b>HP NetServer 5/133 LS4</b>	Intel Pentium 100MHz Intel Pentium 100MHz Dual SMP card 2 Intel Pentium 100MHz Dual SMP cards Intel Pentium 133MHz Intel Pentium 133MHz Dual SMP card 2 Intel Pentium 133MHz Dual SMP cards
<b>Processor Upgrade Slots</b>	Two processor card slots to accommodate Pentium/100, Dual Pentium/100 SMP, Pentium/133, and Dual Pentium/133 processor boards and board upgrades	
<b>ECC Memory</b>	32 MB on 5/100 LS and 5/133 LS Models 1 and 1-Array; 64 MB on 5/100 LS2, 5/133 LS2, 5/100 LS, Model 4200, and 5/100 LS Model 8400, expandable to 768 MB with industry-standard 32 MB SIMMs	
<b>Cache</b>	<b>HP NetServer 5/100 LS</b> <b>HP NetServer 5/100 LS2</b> <b>HP NetServer 5/133 LS</b> <b>HP NetServer 5/133 LS2</b>	512 KB write-back 2 MB (1 MB write-back for each processor) 512 KB write-back 2 MB (1 MB write-back for each processor)
<b>Expansion Slots</b>	Up to 9 bus master slots (3 PCI, 4 EISA and 2 shared) when one processor slot used Up to 8 bus master slots (2 PCI, 4 EISA, and 2 shared) when two processor slots used	
<b>HP Disk Array (with Model 1-Array)</b>	PCI Disk Array Controller with dual Fast and Wide SCSI-2 channels, based on i960 processor with 4 MB cache Hot-swap and hot-spare capabilities Support for RAID 0, 1, 5, 6 (logical combination of RAID 0 and 1)	
<b>Video</b>	Integrated 1024x768, 16-color, non-interlaced 512 KB standard video memory (upgradeable to 1 MB) Super VGA drivers available with operating system or from HP electronic support services	
<b>SCSI</b>	Two PCI Fast and Wide SCSI-2 controllers, integrated on system board	
<b>Mass Storage Shelves</b>	Eight front-accessible, half-height shelves: 1 for CD-ROM (included), 1 standard half-height, 6 hot-swap shelves (must use hot-swap drives); one 3.5-inch flexible disk drive	
<b>Flexible Disk Drive</b>	3.5 inch, 1.44 MB included on all models	
<b>CD-ROM</b>	SCSI-2, tray-load, quad-speed, 190 ms average access time (full-stroke) included on all models	
<b>Built-in I/O Ports</b>	External PCI Fast and Wide SCSI-2 port (included on Model 1-Array only), one 25-pin parallel port, two 9-pin RS-232 serial ports, video port, mini-DIN keyboard and mouse	
<b>HP NetServer Navigator CD-ROM</b>	Bootable CD-ROM with tools to configure, install and manage the HP NetServer LS; includes these "Assistant" products:	
<b>HP Configuration Assistant</b>	Automated, menu-driven installation and configuration application that helps you install, configure/reconfigure and optimise the performance of the HP NetServer LS	
<b>HP NetServer Assistant 2.2</b>	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	
<b>HP Information Assistant</b>	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	
<b>HP Diagnostic Assistant</b>	Easy-to-use diagnostic tool for system verification and rapid troubleshooting of hardware issues, such as incorrect SCSI cabling/termination	
<b>Supported Operating Systems*</b>	Banyan® VINES® IBM® OS/2® Warp and LAN Server Microsoft® MS-DOS®	Microsoft Windows NT™ Server Novell® NetWare®, Novell NetWare SFT™ III, Novell UnixWare® SCO® Open Desktop™/Open Server™, SCO UNIX®
<b>Supported SMP Operating Systems</b>	IBM OS/2 SMP and LAN Server, Microsoft Windows NT Server, Novell UnixWare, SCO MPX™	
<b>HP Advanced Cooling System</b>	Dual fans provide extra cooling for internal components; superior air-flow design	
<b>Security</b>	Startup password Network server mode Keyboard lock button with optional screen blanking Timed keyboard, power, and reset switch lock EISA configuration protection password Enable or disable serial port, flexible disk drives and write operations to flexible disk drive Provision for padlock or cable lock	
<b>Service and Support</b>	3-year, next-business-day, on-site limited warranty from HP or authorised resellers (standard business hours) Optional 4 hour response during standard business hours or 7 days/week, 24 hours/day available as HP SupportPack from resellers (not available in all countries) 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	
<b>Easy Access to Technical Information</b>	Drivers, utilities and technical tips and tricks available via HP NetServer BBS, FTP, CompuServe® and WWWeb Complete technical documentation and system-level information available via HP Support Assistant CD-ROM subscription	

\* For details, see "HP NetServer OS/NOS Support," available via HP NetServer BBS/FTP/WWWeb.



## Optional Accessories†

	Option	Product No.
<b>Memory</b>	4 MB SIMM (70 ns)	D2974A
	8 MB SIMM (70 ns)	D3577A
	16 MB SIMM (70 ns)	D2297A
	32 MB SIMM (70 ns)	D3578A
	ECC Memory Expansion card (12 SIMM sockets)	D2971B
<b>Storage Devices</b>	270 MB IDE hard disk (<12 ms seek time) (must order D2198A mounting tray)	D2388A
	1.05 GB hot-swap Fast SCSI-2 disk module	D3581A
	2.1 GB hot-swap Fast SCSI-2 disk module	D3582A
	4.2 GB hot-swap Fast SCSI-2 disk module	D3583A
	CD-ROM (internal SCSI-2, tray-load, quad-speed, 190 ms average access time)	D2992B
	HP SureStore Tape 6000i Internal DAT Drive	C1528F
	HP SureStore Tape 5000i Internal DAT Drive	C1526F
	HP SureStore Tape 2000i Internal DAT Drive	C1525F
	3.5 inch hard disk drive mounting trays (3-pack—not hot-swap)	D2198A
	Tape/DAT/CD-ROM mounting trays (3-pack—no front panel)	D2199A
	Hot-swap hard disk mounting tray (for selected non-HP drives only; refer to HP electronic services for supported drives)	D3349A
SCSI Cable Kit	D3330-60010	
<b>SCSI-2 Controller</b>	EISA Fast SCSI-2 Controller	D2078B
<b>Disk Array Controller</b>	PCI Disk Array Controller Adapter with dual Fast and Wide SCSI-2 channels	C3610A
	HP EISA Disk Array Controller Adapter with dual Fast SCSI-2 channels	C3609A
<b>External Storage Solutions</b>	Disk System Cabinet (disk modules not included)	D3611A
	1.0 GB hot-swap Fast SCSI-2 disk module	C3305A
	2.0 GB hot-swap Fast SCSI-2 disk module	C3306A
<b>Processor Board Upgrades</b>	Pentium/100	D3574A
	Dual Pentium/100 SMP	D3575A
	Pentium/133	D3613A
	Dual Pentium/133 SMP	D3614A
<b>Monitors</b>	HP Super VGA Display, 14 inch	D2804A
	HP Monochrome VGA Display, 14 inch	D2801A
<b>Network Cards</b>	HP 10/100VG Selectable PCI Adapter	J2585A
	HP 10/100VG Selectable EISA Adapter	J2577A
<b>HP Remote Assistant</b>	EISA server management card for remote diagnostics and environmental monitoring:	
	— For U.S./Canada/Latin American countries (includes modem)	D2968B
	— For other countries (no modem)	D2967B
<b>HP PowerWise UPS*</b>	HP PowerWise UPS 1000VA (230V)	C4277A
	HP PowerWise UPS 2100VA (230V)	C4278A
	HP PowerWise UPS 900VA (230V)	C4778A
	Refer to HP PowerWise UPS Data Sheets (5963-7004, 5963-7005) for software and accessory information	
<b>HP NetServer Racks and Accessories</b>	2 metre rack with side panels and rear doors	J1450A
	2 metre rack only	J1450A option AXH
	8-port HP Console Switchbox	J1460A
	HP NetServer LS Rack Mount Kit	J1451A
	For additional information on HP NetServer Rack solutions, refer to HP NetServer Rack Solutions Data Sheet (5963-7003)	
<b>Service Documentation</b>	Service Manual (also on HP NetServer Navigator CD-ROM)	D3330-90001
	Video Training Kit	D3330-60004

† Please see the HP NetServer Configuration Guide for important technical information when choosing your accessories.

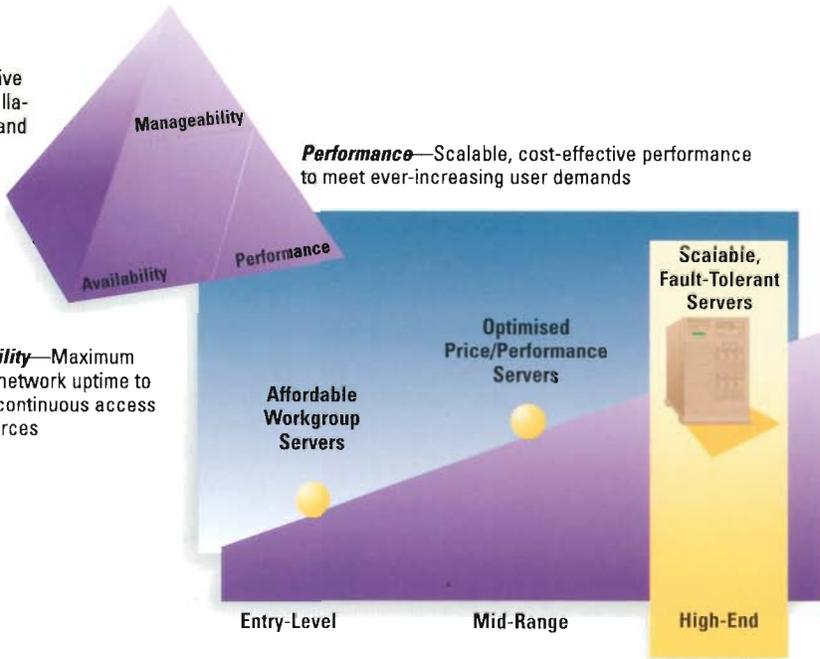
\* Available in North America and Europe only.

# A Generation Ahead: HP Manageability, Availability, Performance

**Manageability**—Comprehensive tools for system/network installation, configuration, operation and administration

**Performance**—Scalable, cost-effective performance to meet ever-increasing user demands

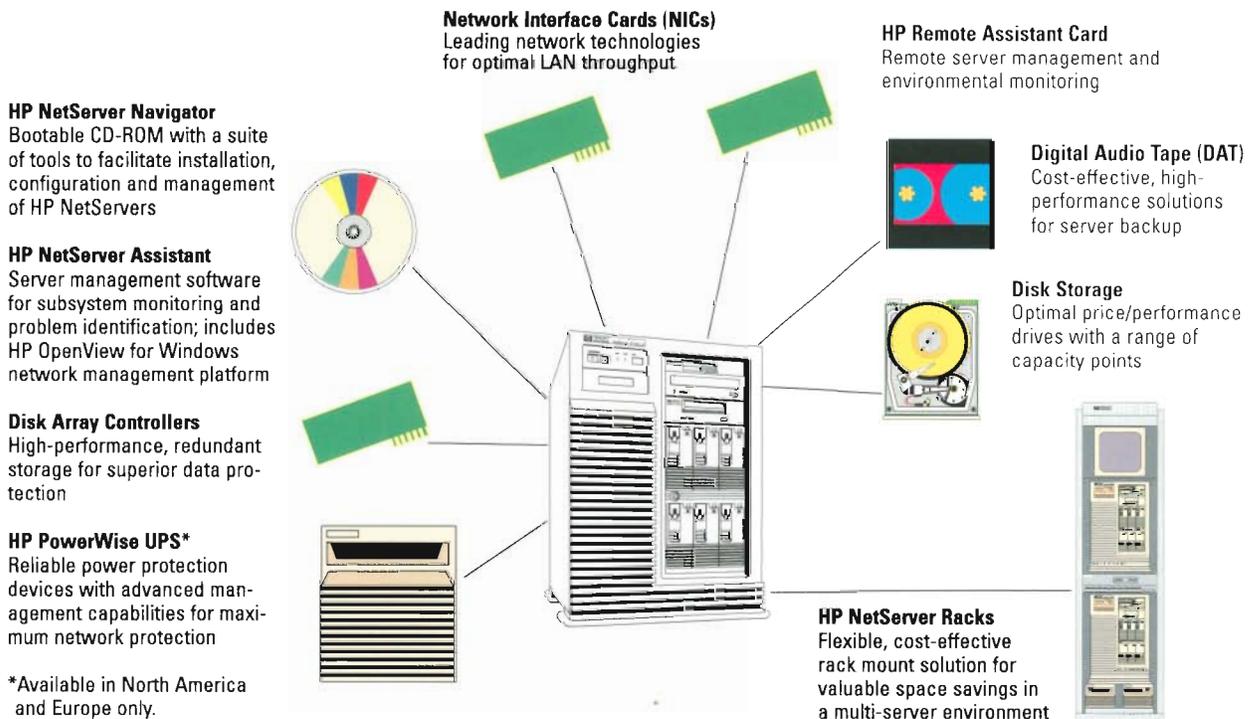
**Availability**—Maximum system/network uptime to ensure continuous access to resources



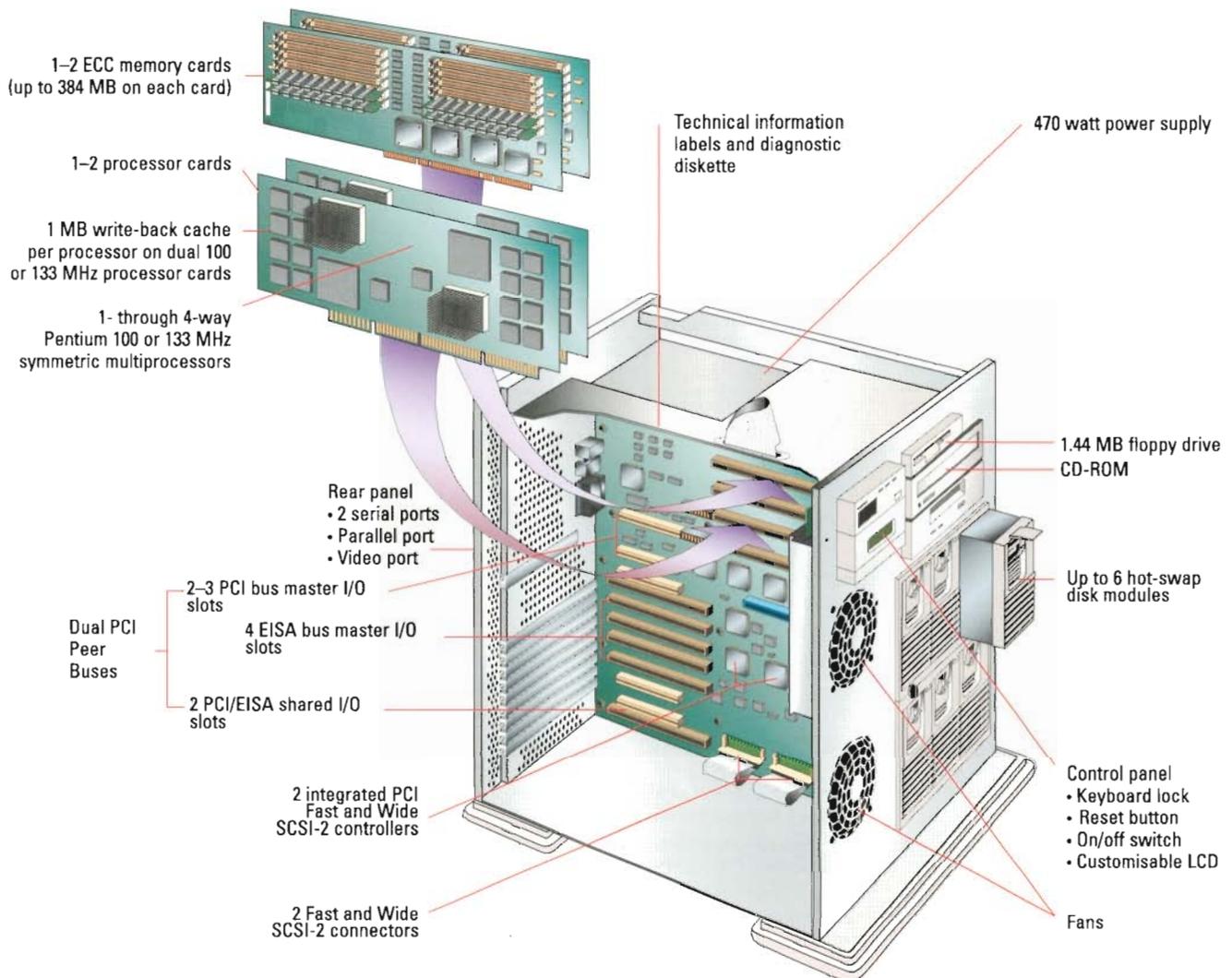
**MAP serves as HP's set of guiding principles in the development of HP NetServers**

## A Comprehensive System Solution

There's more to HP networking than servers. HP offers a comprehensive system solution—from servers to storage, from network interface cards (NICs) to racks. These products are designed and optimised for HP NetServers to give you the highest levels of manageability, availability and performance.



# HP NetServer LS



## Regulatory Compliance

### Electromagnetic Compliance

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

### Safety Compliance

CSA Certified (Canada, File LR374270)  
 EN 60950 Compliance (International)  
 NOM (Mexico)  
 TÜV Certified (Germany)  
 UL Listed (USA, File E139742)

### Datacomm Compliance

Sweden

\* FCC Class B grant pending (FCC ID: B94HPLS104)

## Other Specifications

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

## For Additional Information

HP WWWeb server	<a href="http://www.hp.com">http://www.hp.com</a>
HP NetServer FTP server	<a href="ftp://netservet.hp.com">ftp://netservet.hp.com</a>
HP NetServer BBS	1-408-553-3500

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