



## HP NetServer LXR Pro8



A powerful, rack-optimized server that satisfies the most demanding Windows NT solution workloads and scales easily to satisfy increasing capacity needs—while providing an affordable alternative to comparably performing RISC/UNIX and minicomputer products.

### Highly scalable 8-way rack-optimized server

The HP NetServer LXR Pro8 extends the capabilities of the award-winning HP NetServer L Series systems with up to 8-way multiprocessing and these other features designed for business-critical Microsoft® Windows® NT™ environments:

- Significantly greater performance than 4-way NT servers as measured by a wide range of industry benchmarks
- Up to 32 Intel® Pentium® Pro CPUs (across four servers) in a single 2.0-meter, 19-inch rack for greater computing power per rack than any other system from a major PC vendor
- The fastest memory available—up to 8GB SDRAM—for high-speed database access and application performance
- Seven RAID storage levels optionally available for superior data protection plus redundant, hot-swappable components for high reliability
- Ease of upgradability and servicing with “docking station” style modular design
- Planned upgrade to next-generation CPUs, hot-swap PCI I/O, and future higher performance and higher capacity memory technologies
- Lasting value through affordable prices, superior HP engineering, and the backing of world-class HP service and support

# Features

Performance	
Bus Architecture	<ul style="list-style-type: none"> <li>Adaptive Memory Crossbar™ technology provides high-performance scalability with up to 8 CPUs</li> <li>Full compliance with the following industry standards:               <ul style="list-style-type: none"> <li>Intel's MPS 1.4 SMP specification</li> <li>P6 system bus specification</li> <li>Microsoft's Windows NT Server 4.0 software interfaces</li> </ul> </li> <li>Over 1GB per second processor memory bus bandwidth for enterprise-class computing performance</li> </ul>
Processor	<ul style="list-style-type: none"> <li>Two to eight Intel Pentium Pro 200MHz CPUs, added in increments of two processors</li> <li>Planned upgrade to next-generation CPUs</li> </ul>
Cache	1MB L2 write-back cache per processor
ECC Memory	<ul style="list-style-type: none"> <li>256MB SDRAM memory standard; packaged in two 128MB DIMM modules for maximum density</li> <li>8GB maximum using increments of 256MB DIMM kits (memory extender board required for configurations beyond 4GB)</li> </ul>
I/O Architecture	<ul style="list-style-type: none"> <li>Quad peer PCI buses</li> <li>I<sub>2</sub>O ready</li> <li>528MB aggregate I/O bandwidth for large-scale connectivity</li> </ul>
Availability	
Self-Restart Capability	Automatic Server Restart (ASR) that reboots the server in the event of a NOS hang
Self-Correcting Memory	Manageable Error Checking and Correcting (ECC) system memory and cache memory
Disk Array Controller	<ul style="list-style-type: none"> <li>Optional HP NetRAID or NetRAID-3Si I<sub>2</sub>O PCI disk array controller with three Ultra/Wide SCSI channels; can connect up to 24 drives for a maximum of over 400GB per controller using 18GB external drives</li> <li>Hot-swap and hot-spare capabilities</li> <li>Supports RAID levels 0, 1, 3, 5, 10, 30, and 50</li> <li>Cache battery backup standard</li> </ul>
Power Supplies	<ul style="list-style-type: none"> <li>Hot-swappable, redundant N+1 200–240 volt power supplies allow continuous usage of the server during replacement of a failed power supply</li> <li>Optional redundant power cords: dual-input source power distribution unit (PDU) available to provide continuous access to power all devices in the HP NetServer Rack Enclosure in case of a single power source/cord failure</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>Hot-swappable, redundant N+1 fans provide reliable cooling for internal components allowing continuous operation of the server even in the event of a cooling fan failure</li> <li>Highly reliable CPU temperature control with advanced cooling pipe design for the processors</li> </ul>
Clustering Support	Certified High-Availability solution built around the industry-standard Microsoft Cluster Server (MSCS)
Manageability	
Installation and Configuration	<ul style="list-style-type: none"> <li>HP NetServer Navigator bootable CD-ROM with automated, menu-driven system setup and configuration</li> <li>Site preparation services and installation of server provided upon delivery at no additional charge</li> <li>Automatic installation of monitoring tools</li> </ul>
Remote Administration	<ul style="list-style-type: none"> <li>HP TopTools for servers facilitates remote administration and problem resolution</li> <li>Built-in remote console support capabilities to dial in and identify problems</li> <li>Industry-leading HP OpenView™ for complete network management</li> <li>Easy integration with other leading network and system management products</li> </ul>
Flexibility	
Performance Upgrade	<ul style="list-style-type: none"> <li>Add dual Pentium Pro processor modules for 4-way, 6-way, and 8-way configurations</li> <li>Add 256MB SDRAM DIMM kits (2 x 128MB DIMMs) to increase total memory up to 8GB</li> <li>Planned upgrade to next-generation CPUs, hot-swap PCI I/O, and future higher performance and higher capacity memory technologies</li> </ul>
Modular Rack-Optimized Architecture	<ul style="list-style-type: none"> <li>"Docking station" style modular design facilitates electronics upgrades</li> <li>Front- and rear-serviceable components for easy expandability and repair</li> <li>Up to four servers in a 2.0-meter HP NetServer Rack Enclosure</li> <li>10 EIA units in height</li> <li>Front-mounted controls; easy access to power switch and reset button</li> <li>No tools required to remove cover</li> <li>19-inch rack optimized for optimal flexibility in configuration of server, storage, backup, and UPS devices</li> </ul>
Supported Operating Systems and Software	<ul style="list-style-type: none"> <li>Supports Microsoft Windows NT Server 4.0, Standard or Enterprise Editions<sup>1</sup></li> <li>Endorsed by all major NT-compliant network management, database, and application software vendors</li> <li>Comprehensive driver support</li> </ul>

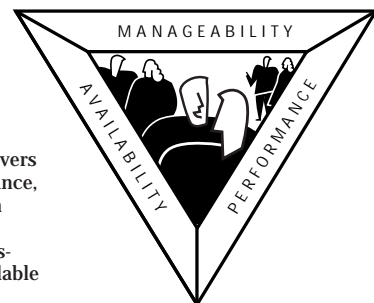
<sup>1</sup> Enterprise Edition required for greater than 4 CPUs

# Features



Connectivity	
I/O Standard	<ul style="list-style-type: none"> <li>• Two 9-pin RS-232 serial ports</li> <li>• One 25-pin parallel port</li> <li>• Mini-DIN keyboard port</li> <li>• Mini-DIN mouse port</li> </ul>
I/O Expansion Slots	Eight PCI (one occupied by video card)
Controller	<ul style="list-style-type: none"> <li>• Optional HP NetRAID or NetRAID-3Si I<sub>2</sub>O disk array controller</li> <li>• Optional access to six Ultra/Wide SCSI controllers embedded on system board</li> </ul>
Internal Mass Storage System	<ul style="list-style-type: none"> <li>• Three front-accessible, half-height storage bays</li> <li>• Up to 27GB maximum internal storage using 9.1GB disk drives</li> </ul>
Video	<ul style="list-style-type: none"> <li>• PCI card providing 1280x1024 resolution, 256-color, noninterlaced</li> <li>• 2MB standard video memory</li> <li>• Ultra VGA drivers available with Windows NT or through the HP website or Server BBS service</li> </ul>
CD-ROM	One front-accessible 12x CD-ROM drive (standard)
Flexible Disk Drive	One 3.5-inch, 1.44MB flexible disk drive (standard)
Service and Support	
Warranty	<ul style="list-style-type: none"> <li>• Three-year, next-business day, on-site limited warranty from HP or authorized resellers (standard business hours) worldwide</li> <li>• Site preparation services and installation of server provided upon delivery at no additional charge</li> <li>• Free telephone support for basic setup, installation, and troubleshooting in U.S., Canada, and Europe during warranty</li> </ul>
Support Options	<ul style="list-style-type: none"> <li>• Optional 4-hour response during standard business hours, or 24 hours a day, 7 days a week available as HP SupportPack from resellers</li> <li>• Optional LAN Support and Comprehensive Network Support HP SupportPack from resellers</li> </ul>
Built-In Support and Technical Information	<ul style="list-style-type: none"> <li>• HP WWWeb, Server BBS, automated fax retrieval, and CompuServe Forum available 24 hours a day</li> <li>• HP Diagnostic Assistant hardware test disk</li> <li>• HP NetServer Navigator technical information CD-ROM</li> </ul>
Reseller Support Services	A collection of troubleshooting tools and technical resources designed to improve the supportability of HP NetServers and enhance the customer support experience. See the HP NetServer Service and Support website for more information: <a href="http://www.hp.com/go/netserver">http://www.hp.com/go/netserver</a>
Security and Safety	
System Security	<ul style="list-style-type: none"> <li>• Startup password</li> <li>• Enable or disable serial port, flexible disk drives, and write operations to the flexible disk drive</li> </ul>

HP's MAP strategy ensures that your networking solution delivers the highest levels of Manageability, Availability, and Performance, all backed with industry-leading support. 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.



# Accessories

	Product Accessory <sup>1</sup>	Product No.
Memory	<ul style="list-style-type: none"> <li>• 256MB SDRAM DIMM kit (2 x 128MB; 100MHz DIMMs)</li> <li>• Memory extender board (to support memory configurations beyond 4GB)</li> </ul>	D5026A D5027A
Processor	Dual Pentium Pro 200MHz 1MB L2 cache processor board upgrade	D5030A
Internal Storage Devices	<ul style="list-style-type: none"> <li>• 4.2GB Ultra/Wide SCSI hard disk (7200rpm)</li> <li>• 9.1GB Ultra/Wide SCSI hard disk (7200rpm)</li> <li>• HP SureStore 24i (24GB DAT internal tape drive)</li> </ul>	D4910A D4911A C1555A
Disk Array Controller	<ul style="list-style-type: none"> <li>• HP NetRAID disk array controller</li> <li>• HP NetRAID-3Si I<sub>2</sub>O disk array controller (Available Q1, 1998)</li> </ul>	D4943A D5955A
External Storage	<ul style="list-style-type: none"> <li>• HP NetServer Rack Storage/8</li> <li>• 4.2GB Ultra/Wide SCSI hot-swap disk module (7200rpm)</li> <li>• 4.2GB Ultra/Wide SCSI hot-swap disk module (10,000rpm)</li> <li>• 9.1GB Ultra/Wide SCSI hot-swap disk module (7200rpm)</li> <li>• 18.2GB Ultra/Wide SCSI hot-swap disk module (7200rpm)</li> <li>• Embedded SCSI extender board</li> </ul>	D4902A D3583C D4903A D4289A D5039A D5963A
Backup Storage <sup>2</sup>	<ul style="list-style-type: none"> <li>• HP SureStore Autoloader 418, 320GB external DLT autoloader</li> <li>• HP SureStore DLT Library 4115wr, 600GB 1 DLT 4000 drive</li> <li>• HP SureStore DLT Library 7115wr, 1050GB 1 DLT 7000 drive</li> <li>• HP SureStore DLT Library 4228w, 1.1TB 2 DLT 4000 drives</li> <li>• HP SureStore DLT Library 7228w, 2TB 2 DLT 7000 drives</li> </ul>	C6280F C5172F C5172J C5175F C5175J
High Availability	Hot-swap service kit (includes extra removable power supply, upper fan cage, and lower fan cage)	D5973A
Network Interface Cards	<ul style="list-style-type: none"> <li>• HP NetServer PCI 10/100TX LAN adapter</li> <li>• HP 10/100VG PCI LAN adapter</li> </ul>	D5013A J2585B
Monitor, Keyboard, and Mouse	<ul style="list-style-type: none"> <li>• HP Super VGA display, 15-inch</li> <li>• HP NetServer mini-DIN keyboard</li> <li>• Mouse with mini-DIN interface</li> </ul>	D2825A D4950B C3751B
Rack and Cabinet Accessories <sup>3</sup>	<ul style="list-style-type: none"> <li>• 2.0-Meter rack with side panels and rear door, quartz color, 41U</li> <li>• 2.0-Meter bare rack (without side panels or rear door), quartz color</li> <li>• 2.0-Meter perforated front door, quartz color</li> <li>• HP Console Switch, 4-port, 1U</li> <li>• HP Console Switch, 8-port, 1U</li> <li>• HP NetServer Rack Installation kit</li> <li>• HP 200–240V Dual-Input Source Power Distribution Unit (PDU) (Available February 1998)</li> </ul>	J1487B J1488A E7751A J1493A J1497A D4984A E7666A
Uninterruptible Power Supplies	<ul style="list-style-type: none"> <li>• Optional uninterruptible power supplies from industry-leader American Power Conversion (APC), certified to operate and visually blend with HP NetServers</li> <li>• For additional information, contact your local APC reseller, or see APC's website at <a href="http://www.apcc.com">http://www.apcc.com</a></li> </ul>	NS3000RMT3U (208V-U.S.) NS3000RMI3U (230V-Europe)
Cables	<ul style="list-style-type: none"> <li>• For external connection from HP NetRAID or NetRAID-3Si I<sub>2</sub>O to HP NetServer Rack Storage/8</li> <li>• For external connection from embedded SCSI to HP NetServer Rack Storage/8</li> <li>• 6-cable assembly to connect to internal channel of HP NetRAID controllers</li> </ul>	D3637C D3636C D5972A

For a complete list of all accessories, download HP NetServer Order Assistant, HP NetServer Rack-Optimized Ordering Guide, and HP NetServer Rack Assistant from <http://www.hp.com/go/netserver>.

<sup>1</sup> Please see the *HP NetServer Configuration Guide* for important technical information when choosing your accessories.

<sup>2</sup> All capacities assume 2:1 compression. For additional information about HP information storage products, please visit the HP website at <http://www.hp.com/go/storage>.

<sup>3</sup> For additional information about HP NetServer rackmount solutions, please visit the HP website at <http://www.hp.com/go/enclosures>.

# HP NetServer LXr Pro8

1-4 Processor boards  
Pentium Pro 200MHz each with  
1MB L2 write-back cache

2 CPUs/Board with  
2 cooling pipes

Ultra VGA video adapter

Optional: HP NetRAID controller  
or NetRAID-3Si I<sub>2</sub>O controller

8 PCI slots

3.5-inch, 1.44MB flexible disk drive

CD-ROM drive

Front view

Up to 3 optional  
hard drives and/or  
DAT tape drives

Redundant N+1  
hot-swappable  
power supplies

Status Indicator  
Lights

Status  
Display

Control panel:  
• On/off switch  
• Reset button

Standard: DIMM memory  
board for up to 4GB

Optional: DIMM memory  
board for > 4GB up to 8GB

Back view

Redundant N+1 fans  
in hot-swappable cages

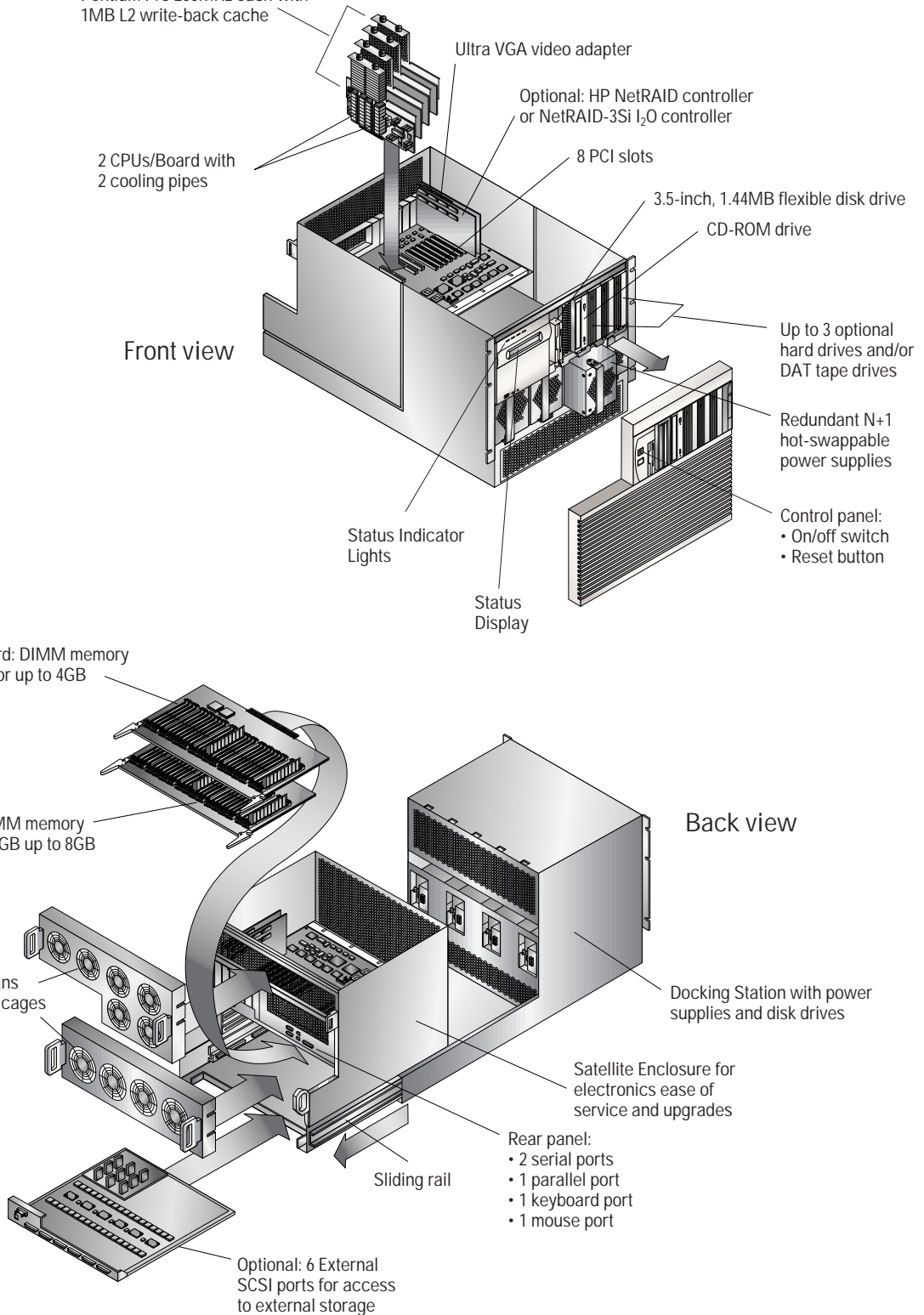
Docking Station with power  
supplies and disk drives

Satellite Enclosure for  
electronics ease of  
service and upgrades

Rear panel:  
• 2 serial ports  
• 1 parallel port  
• 1 keyboard port  
• 1 mouse port

Sliding rail

Optional: 6 External  
SCSI ports for access  
to external storage



# HP NetServer LXr Pro8

Specifications									
Operating Temperature	41° to 95° F (5° to 35° C)								
Operating Humidity	20% to 80% RH noncondensing								
Acoustic Emissions	Sound Level (LpA): < 58 dB(A)								
Power Supply	200–240 VAC 16A single cord input at 47–63Hz								
Power Availability	200W continuous power for PCI I/O and internal drives								
Power Consumption	<ul style="list-style-type: none"> <li>• 970W typical usage maximum with 200–240V supply (3310 BTUs/hour)</li> <li>• 1560W design maximum with 200–240V supply (5323 BTUs/hour)</li> <li>• Maximum inrush current: 80A for &gt;10ms</li> </ul>								
System Dimensions	17.5"H x 19"W x 32.1"D (445mm x 483mm x 816mm)								
System Weight	Up to 168lb (75.6kg) depending on configuration								
Regulatory Compliance									
Electromagnetic	<ul style="list-style-type: none"> <li>• CISPR 22 Class A (International)</li> <li>• EN 55022 Class A (EU Countries)</li> <li>• EN 50082-1, Generic Immunity (EU Countries, includes: IEC 801-2, ESD; IEC 801-3, RI; IEC 801-4, FT)</li> <li>• EN 61000-3-2: 1995/IEC 1000-3-2: 1995, Harmonic Current</li> <li>• FCC Class A (verification)</li> <li>• M of C Class A (Korea)</li> <li>• VCCI Class 1 (Japan)</li> <li>• BCIO Class A (Taiwan)</li> </ul>								
Safety Compliance	<ul style="list-style-type: none"> <li>• CUL Certified (Canada)</li> <li>• EN 60950 Compliance (International)</li> <li>• TÜV Certified (Germany)</li> <li>• UL Listed (E47672) (USA)</li> </ul>								
Configuration and Models									
HP NetServer LXr Pro8 6/200 <sup>1</sup>	<table border="1"> <thead> <tr> <th>Model</th> <th>Processor</th> <th>ECC Memory</th> <th>Product No.</th> </tr> </thead> <tbody> <tr> <td>Model 1</td> <td>Two Pentium Pro 200MHz 1MB cache CPUs</td> <td>256MB</td> <td>D5028A</td> </tr> </tbody> </table>	Model	Processor	ECC Memory	Product No.	Model 1	Two Pentium Pro 200MHz 1MB cache CPUs	256MB	D5028A
Model	Processor	ECC Memory	Product No.						
Model 1	Two Pentium Pro 200MHz 1MB cache CPUs	256MB	D5028A						
<sup>1</sup> The HP NetServer LXr Pro8 includes: CD-ROM, 3.5" FDD, 4 hot-swap power supplies, 2.5-meter C20 to C19 200–240V power cord, 68 to 50 SCSI adapter. Keyboard and mouse to be purchased separately.									

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## Support

Support can be delivered either by your local reseller or by the Hewlett-Packard Customer Support organization. Receive proactive updates on your product by registering at <http://proact.hp.com:8088/NetServer> or look for the latest support updates on our website at <http://www.hp.com/go/netserver>.

Hardware Support	3-year, on-site same day	3-year, on-site 7 day/24 hour
HP NetServer LXr Pro8	H5526A	H5527A

Software Support

HP's scalable services and support for Windows NT	H1931BA
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## For Additional Information

HP WWWeb Server	<a href="http://www.hp.com/go/netserver">http://www.hp.com/go/netserver</a>
HP NetServer FTP Server	<a href="ftp://ftp.hp.com/pub/servers">ftp://ftp.hp.com/pub/servers</a>
HP NetServer BBS	1-208-344-1691
HP FAX Response System	1-208-344-4809 (worldwide from fax only)

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