HP NetServer LM Series

NetServer 4d/66 LM
NetServer 5/60 LM
NetServer 5/66 LM
NetServer 5/66 LM2

**Easy-to-manage scalable
servers that maximize uptime**

Benefits and Features

How You Benefit	Product Feature
Servers that are easy to manage	Intuitive interfaces, easy setup, and comprehensive security features ease server administration
	HP server management software provides proactive alerting and problem resolution
	Remote management solution for "lights out" server management (optional)
	Customizable LCD display; two 16-character rows
Servers that maximize system uptime	Fast SCSI-2 Disk Array with RAID levels 0, 1, 5, and 6 for superior data protection
	Hot swap allows continuous usage of server during replacement of failed drive
	Hot spare allows instant, unattended initiation of data reconstruction on spare drive upon drive failure
	Error checking and correcting (ECC) memory card optional on all systems
Servers that offer high performance	Modular design for easy upgrade to current and future Pentium processors
	Dual Pentium Symmetric Multiprocessing (SMP) configurations available
	256-KB external write-back cache on Pentium models
	HP Self-Synchronous Architecture eliminates bus bottlenecks by operating as fast as the fastest processor
	Integrated EISA Fast SCSI-2
	Fast disks with <11ms average seek time
Servers that protect a user's investment	Eight EISA bus master slots
	Eight front-accessible mass storage shelves plus one shelf for floppy drive
	Modular design for easy processor upgrades: chip upgrade from Intel 486/33DX™ to OverDrive/33 (66 MHz); board upgrades to Pentium/60, Pentium/66, and Dual Pentium/66 Symmetric Multiprocessing (SMP)
	Maximum RAM up to 384 MB
	Integrated twin-channel EISA Fast SCSI-2 controller connects up to 14 devices
	EISA Disk Array controller with dual Fast SCSI-2 channels connects up to 20 GB per controller (Model 1-Array only)
Servers backed by outstanding customer service and support	Three-year, next-day, on-site limited warranty; upgradable to same day or 24 hour x 7 day, 4-hour response
	Free telephone support in U.S. and Canada during warranty
	Customized support programs tailored to your needs from HP and HP authorized resellers
	Multivendor support through strategic technical support agreements
Servers that offer powerful support tools for customers	HP Server BBS, automated fax retrieval, and CompuServe™ Forum available 24 hours a day
	HP Support Assistant CD-ROM – client/server/networking connectivity technical information included
	HP Server Saver hardware test disk
Servers that are secure from unauthorized access	Power-on password
	Network Server mode
	EISA configuration and BIOS protection switch
	Enable or disable serial port, parallel port, floppy drives, and write operations to the floppy disk
	Provision for padlock or cable lock

Configurations and Models

	Model	Hard Disk	Array	Product No.
HP NetServer 4d/66 LM	1	—	—	D2186A
	530	535-MB SCSI	—	D2187A
	1050	1.05-GB SCSI	—	D2188A
	2000-Array	—	1.0 GB x 2*	D2189A
HP NetServer 5/60 LM	1	—	—	D2194A
	530	535-MB SCSI	—	D2195A
	1050	1.05-GB SCSI	—	D2196A
	2000-Array	—	1.0 GB x 2*	D2197A
HP NetServer 5/66 LM	1	—	—	D2993A
	1050	1.05-GB SCSI	—	D2994A
	1-Array	—	**	D2995A
HP NetServer 5/66 LM2 (Dual Pentium/66 SMP)	1	—	—	D2996A

*Model 2000-Array includes a single-channel EISA Disk Array controller and two 1.0-Gbyte hot swap SCSI-2 disk modules.

**Model 1-Array includes a dual-channel EISA Disk Array controller and hot swap chassis. Must order hot swap SCSI-2 disk modules separately.

All models of the HP NetServer LM series include:

- 16 MB of memory
- Integrated twin-channel EISA Fast SCSI-2 controller
- Integrated IDE controller
- Integrated Super VGA video controller
- 3.5-inch, 1.44-MB floppy disk drive
- 1 parallel and 2 serial ports
- External SCSI-2 port
- HP NetServer Assistant 2.0 software
- Keyboard

Product Features

Processor	HP NetServer 4d/66 LM	Intel 486™ DX2-66
	HP NetServer 5/60 LM	Intel Pentium 60MHz
	HP NetServer 5/66 LM	Intel Pentium 66MHz
	HP NetServer 5/66 LM2	Dual Intel Pentium 66MHz
Upgrades	Processor board upgrade to Pentium	
	Processor board upgrade to Dual Pentium Symmetric Multiprocessing (SMP)	
Memory	16-MB parity memory standard on all models	
	4, 8, 16, and 32-MB industry-standard (70 ns) SIMMs supported	
	Expandable to 384-MB parity memory on all models	
	• Up to 128-MB parity memory on system board	
	• Additional 256-MB on optional memory board	
	Optional ECC memory board expandable to 384 MB (SIMMs must be added in pairs for parity memory. SIMMs must be added in fours for ECC memory.)	
Cache	HP NetServer 4d/66 LM	128-KB write-through cache
	HP NetServer 5/60 LM	256-KB write-back cache
	HP NetServer 5/66 LM	256-KB write-back cache
	HP NetServer 5/66 LM2	Dual 256-KB write-back caches with local shared bus
Expansion Slots	Eight EISA bus master slots	
	Processor card slot	
	Memory expansion slot	
	Pre-installed HP Disk Array controller (Array models only)	
HP Disk Array (standard on Array models)	EISA Disk Array controller with single Fast SCSI-2 channel (Model 2000-Array only)	
	EISA Disk Array controller with dual Fast SCSI-2 channels (Model 1-Array only)	
	Based on i960 processor with 4-MB write-back cache	
	Offers hot swap and hot spare capabilities	
	Supports RAID 0, 1, 5, or 6 (logical combination of RAID 0 and 1)	
Video	Integrated Super VGA controller	
	512-KB standard video memory (upgradable to 1 MB)	
SCSI	Integrated twin-channel EISA Fast SCSI-2 controller	
Mass Storage Shelves	Eight front-accessible, half-height shelves	
	One 3.5-inch floppy drive shelf	
Floppy Disk	3.5-inch, 1.44-MB standard	
Hard Disk Drive	535-MB SCSI-2 (<11ms seek time)	
	1.05-GB SCSI-2 (<11ms seek time)	
I/O Ports	EISA Fast SCSI-2 external port	
	One 25-pin parallel, two 9-pin serial ports	
	Video port	
	Mini-DIN keyboard and mouse connectors	
System Utilities	HP View: Displays/prints internal settings/configuration	
	EISA Configuration: For fast, automatic configuration of EISA accessories	
HP NetServer Assistant 2.0	Server management software that provides proactive alerting, problem resolution, and remote management capabilities	
	Includes HP OpenView network management platform	
Security	Power-on password	
	Network server mode	
	Keyboard lock button	
	EISA configuration and BIOS protection switches	
	Enable or disable serial port, parallel port, floppy drives, and write operations to floppy drive	
	Provision for padlock or cable lock	
HP Advanced Cooling System	Three fans for extra cooling of internal components	
	Superior air flow design	
Supported Operating Systems	Novell® NetWare®, Novell NetWare SFT®, MS-DOS® 6.2, SCO™ UNIX, Banyan VINES®, IBM® OS/2® LAN Server, Microsoft® OS/2 LAN Manager, Microsoft Windows NT™AS, Novell UnixWare®	
Supported SMP Operating Systems	SCO MPX, IBM OS/2 SMP*, Microsoft Windows NTAS SMP**	
Designed-In Support Features	Extensive built-in self-tests	
	HP Server Saver hardware test disk ***	
	CD-ROM system technical information included with NetServer Assistant	
Easy Access to	CompuServe™ Forum and HP NetServer BBS for driver and utility downloads	
Technical Information	Complete technical documentation and system-level information via CD-ROM subscription	

*Available from IBM Q2'94. **Available Q3'94. ***Available Q2'94.

Optional Accessories

	Option	Product Number
Memory	4-MB SIMM (70 ns)	D2974A
	8-MB SIMM (70 ns)	D2975A
	16-MB SIMM (70 ns)	D2297A
	32-MB SIMM (70 ns)	D2298A
Memory Expansion Card	Expansion card (must add memory SIMMs in pairs)	D2954A
	ECC memory card (must add memory SIMMs in fours)	D2971A
Storage Devices	5.25-inch, 1.2-MB floppy disk drive	D2036A
	270-MB IDE hard disk (12ms seek)	D2894A
	535-MB Fast SCSI-2 hard disk (<11ms seek)	D2075B
	1.05-GB Fast SCSI-2 hard disk (<11ms seek)	D2076B
	2.1-GB Fast SCSI-2 hard disk (<10ms seek)	D2077A
	510-MB hot swap Fast SCSI-2 disk module	C3304A
	1.0-GB hot swap Fast SCSI-2 disk module	C3305A
	2.0-GB hot swap Fast SCSI-2 disk module	C3306A
	Internal SCSI-2 CD-ROM (tray load, dual speed, 325ms access time, 1/3 stroke)	D2992A*
	HP JetStore™ 5000i Internal Tape Drive	C1526A
	HP JetStore™ 2000i Internal Tape Drive	C1525A
SCSI-2 controller	EISA Fast SCSI-2 controller	D2078B
Disk Array Upgrade	EISA Disk Array controller with dual Fast SCSI-2 channels	C3609A
(Can be used with Model 1)	Hot swap chassis (Must order hot swap SCSI-2 disk modules separately.)	D2999A
External Mass Storage	Refer to HP Disk System/Disk Array product brief (P/N 5962-7241EUS) for product numbers and ordering information	
Processor Upgrades	Pentium/60 processor board upgrade	D2956A
	Pentium/66 processor board upgrade	D2957A
	Dual Pentium/66 SMP processor board upgrade	D2959A
Monitors	HP Super VGA Display, 14-inch (0.28 dot pitch)	D2804A
	HP Super VGA Display, 14-inch (0.39 dot pitch)	D2802A
	HP Monochrome VGA Display, 14-inch	D2801A
Network Cards	HP EISA LAN Adapter/32TP	27248A
	HP PC LAN Adapter/16TP Plus	27247B
	HP ISA 16/4 Adapter Card (Token Ring)	D2378A
	HP PC LAN Adapter/16TL Plus	27252A
HP Remote Assistant	EISA Card for remote management and environmental monitoring of server	
	U.S./Canada version	D2968A
	Outside U.S./Canada version	D2967A
HP Support Assistant CD-ROM	Technical information on servers, clients, and networking connectivity. Subscription service updated quarterly. To order call: U.S.: 1-800-457-1762; North America (outside U.S.) and Latin America: 01 (317) 364-8882 Asia/Pacific Rim: 65 740-4629; Europe: 31 55-384 279	
Software	MS-DOS 6.2 — order option 100 (English version) with the HP NetServer LM system	
Service Documentation	Service Manual	D2182-90001
	Service Video Training Kit	D2182A+49A-61 U.S. NTSC VHS
		D2182A+49A-62 Euro PAL
	Product Line Service Handbook	5962-5314

Other Specifications

Operating Temperature	41° to 95° F (5° to 35° C)
Operating Humidity	20% to 80% noncondensing
Acoustic Emissions	Sound Level (LpA): <58 dB (A)
Power Supply	Switch selectable input range: 90 to 132 VAC or 198 to 264 VAC at 47–63 Hz
Power Availability	386 W continuous; 458 W peak
	Power to backplane I/O connector slots: 16 A at 5 V, 1.5 A at 12 V, 0.3 A at -5 V, 0.1 A at -12 V
Power Consumption	551/529 W maximum with 110/220 V supply
	654/627 W peak with 110/220 V supply
System Dimensions	19.3 in. high x 13.7 in. wide x 18.1 in. deep
System Weight	50–70 lbs depending on configuration

*Available June '94

Scalable Fault-Tolerant Servers

HP has expanded its NetServer LM series to include the latest in technological advances, high uptime features, and increased management ease in response to present industry requirements.

The introduction of affordable high-end technologies and stable industry standards has brought minicomputer robustness to the PC platform. With this additional network complexity comes new challenges to MIS departments who are under increased pressure to reduce cost, raise service levels, and manage a proliferation of multivendor products. In today's business-critical, application-intensive environments, even more stringent performance is being required of the server—the foundation of any PC network.

The HP NetServer LM series is engineered from the bottom-up with HP's extensive systems understanding built-in. The scalable server architecture allows for Dual Pentium™ Symmetric Multiprocessing (SMP), the addition of error checking and correcting (ECC) memory, and the replacement of failed disks without compromising system or data availability. Its advanced HP Self-Synchronous Architecture provides robust performance in a de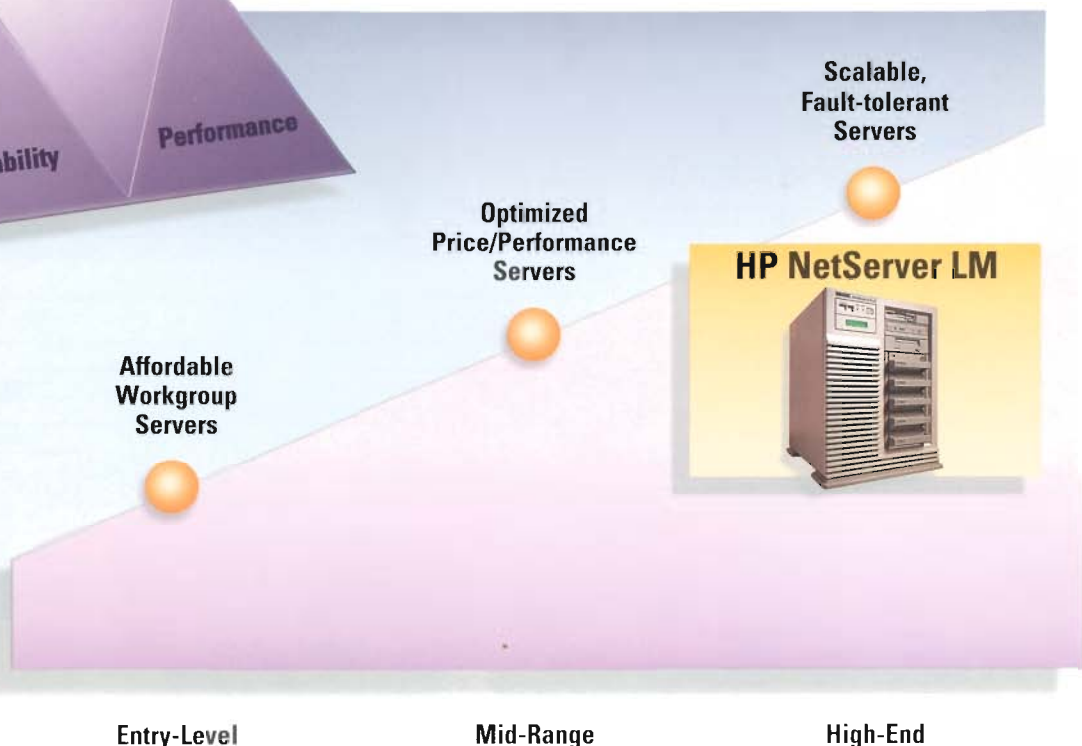manding network. The critically acclaimed Power Cabinet and modular internal design affords considerable expandability and easy access to components for upgrade or maintenance.

HP NetServer Assistant and optional HP Remote Assistant consolidate server management from a single PC console—local or remote—and provide a comprehensive, customizable toolset for proactive notification, problem identification and resolution.
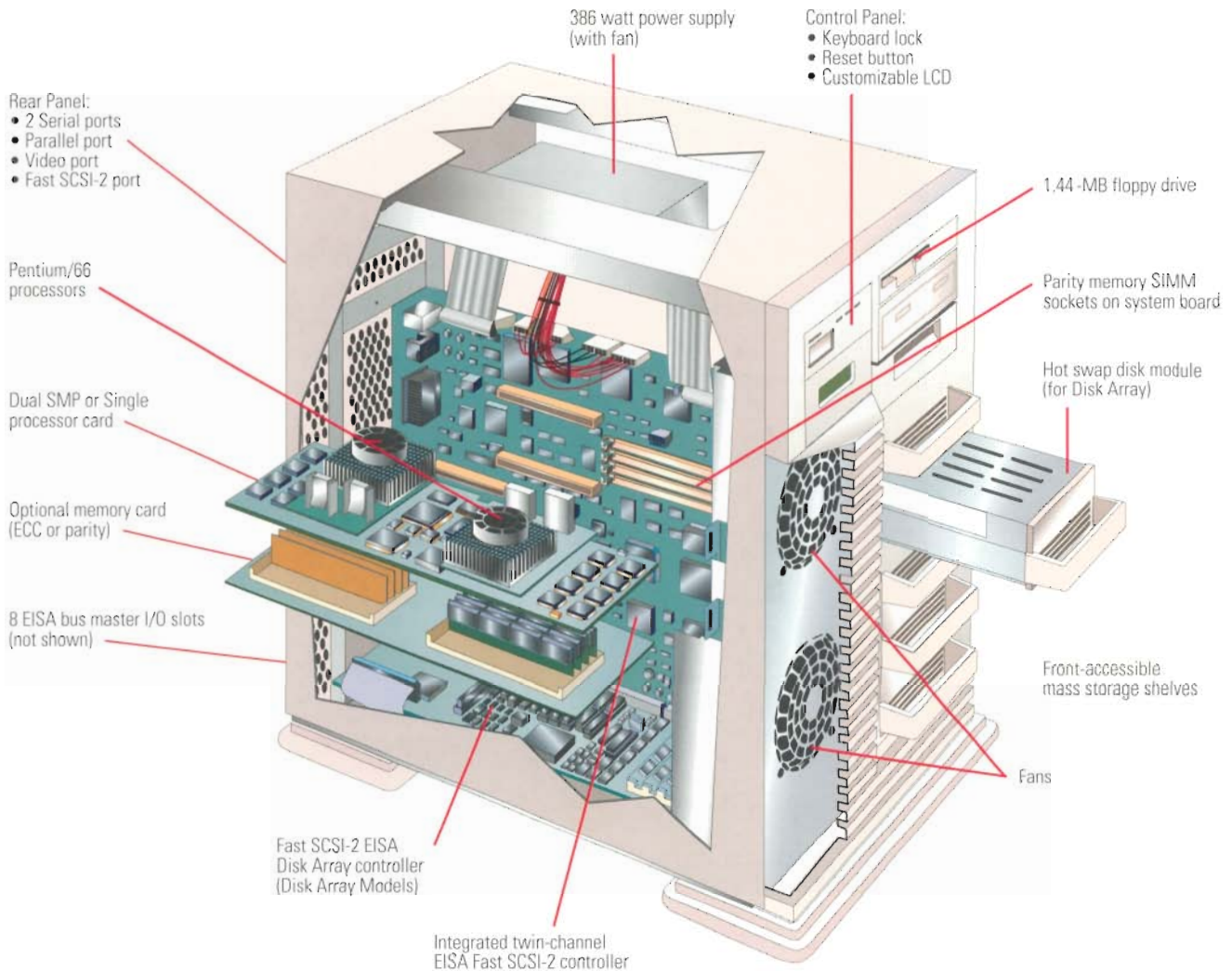
Backed by HP's world-class support organization, a three-year, on-site warranty, and multi-faceted support programs tailored to your needs, the HP NetServer LM series deliver the ultimate in fault-tolerant servers.
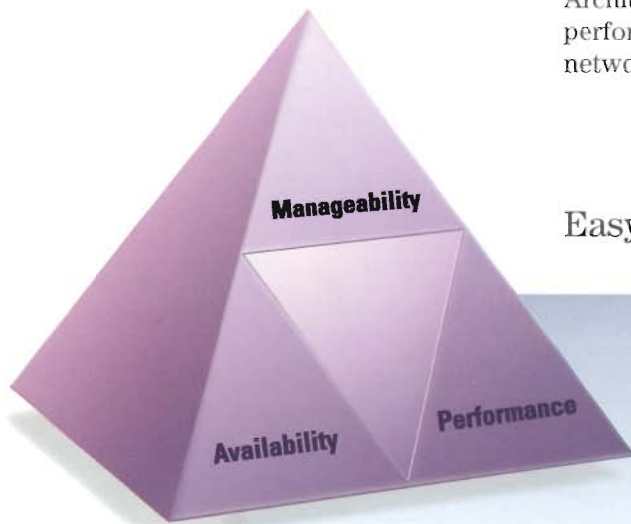
Easy-to-Manage Servers from HP

Manageability

Availability

Performance

Scalable, Fault-tolerant Servers

Optimized Price/Performance Servers

HP NetServer LM

Affordable Workgroup Servers

Entry-Level

Mid-Range

High-End

HP NetServer LM Series

386 watt power supply
(with fan)

Control Panel:
• Keyboard lock
• Reset button
• Customizable LCD

Rear Panel:
• 2 Serial ports
• Parallel port
• Video port
• Fast SCSI-2 port

1.44-MB floppy drive

Pentium/66
processors

Parity memory SIMM
sockets on system board

Dual SMP or Single
processor card

Hot swap disk module
(for Disk Array)

Optional memory card
(ECC or parity)

8 EISA bus master I/O slots
(not shown)

Front-accessible
mass storage shelves

Fans

Fast SCSI-2 EISA
Disk Array controller
(Disk Array Models)

Integrated twin-channel
EISA Fast SCSI-2 controller

Regulatory Compliance

Electromagnetic Compliance

CISPR 22 Class B (International)
EN 55022 Class B (EC Countries)
EN 50082-1, Generic Immunity (EC Countries), incl.:
• IEC 801-2, ESD
• IEC 801-3, RI
• IEC 801-4, FT
FCC Class B (USA) (FCC ID: B94HPLS102)*
M of C Class B (Korea)
VCCI Class 2 (Japan)

*FCC Class A verified when used with
plug-in Class A LAN card.

Safety Compliance

CSA Certified (Canada, File LR37427)
EN 60950 Compliance (International)
FEI Exempted (Finland)
NEMKO (Norway)
NOM (Mexico)
SASO (Saudi Arabia)
TÜV Certified (Germany)
UL Listed (USA, File E139742)

Datacomm Compliance

Germany and Sweden

intel
inside®

yes
NetWare
Tested and
Approved

Member of
TSANet
Technical Support Alliance Network