



hp L-Class  
entry-level servers



product brief

## HP's entry-level solutions for your always-on infrastructure



hp 9000 l-class rack

Today, whether you're managing your own business on the web or hosting someone else's, you have to operate on Internet time, at Internet speeds, and with the same—or even higher—standards for customer service and operational efficiency as for traditional businesses.

In the always-on environment of the Internet, you need an infrastructure that will support the way you—and your customers—do business. The HP 9000 L-Class servers give your business the fastest—and safest—route to the web.

The L-Class delivers the traditional performance, scalability, and availability advantages of UNIX®, combined with business-critical Internet technologies—without high maintenance requirements and costs. The L-Class gives you plenty of room to grow. You can start at a low-price entry point and scale up to the leading 4-way UNIX performance density—in the same box, without penalty. And with its industry partners, HP is developing solutions surrounding these servers that are tested and easy to administer.

With the HP 9000 L-Class, owning a UNIX server is smart, simple, and stress-free.

### smart

#### make the internet work for you

The HP 9000 L-Class is packed with best-in-class performance and management capabilities, along with the latest Internet technologies, which makes it the smart choice for demanding applications.

#### optimized form—scalable functionality

- Streamlined, 7U-height, packed with CPUs, memory, and I/O, plus the ability to scale subsystems without compromise
- Highest performance density in its class to make the best use of your space
- Internet and OLTP performance and price/performance leadership for entry-level UNIX systems
- World's fastest 4-way server
- Over 3x the I/O throughput of competitive systems

### unparalleled internet manageability

- HP secure web console capability for full remote control via the web
- Built-in fault management system for proactive fault detection and avoidance
- HP WebQoS Peak to stabilize website performance and improve site reliability and transaction throughput

### investment protection

- Ultimate scalability with simple in-box upgrades
- The industry's only in-box upgrade from 2-way to 4-way UNIX computing
- Built-in growth path to next-generation IA-64 or PA-RISC platforms

### the internet edge

- Choice of integrated web servers for high-traffic web and e-commerce sites, application hosting, and customer management applications
- Massive I/O bandwidth for unprecedented throughput
- HP e-speak development kit for next-generation e-services

# proven solutions for business-critical computing

## simple

### hp makes IT easy

With the HP 9000 L-Class servers, HP offers a unique combination of programs designed to help you get started quickly and easily.

### fastest time-to-web

- HP's Global Deployment Services (GDS) and HP partner integration services for fast, error-free deployment
- Easy configuration and ordering through e-products storefront
- HP Onsite state-of-the-art manufacturing solution to ensure faster delivery
- Complimentary HP-UX training for all levels, either web-based or live

### flexible financing

- Operating leases with a variety of attractive terms
- Tech Refresh program for cost-effective upgrades to keep pace with changing needs and new technology
- Bundled Solution Finance program to consolidate and simplify financing arrangements
- Pay-Per-Use—(This program delivers a comprehensive end-to-end solution that enables service providers to reduce their risk by aligning lease payments with project revenue over the complete life of the contract.)

## the right server for today's applications

### broadband

The combination of industry-leading speed, I/O throughput and capacity, and high availability with end-to-end solutions deliver more powerful, reliable broadband services.

### WAP

Superior performance and scalability to deploy wireless-based services. High-performance density (five per rack) increases capacity and availability in crowded data centers.

### internet infrastructure

Highly scalable, reliable, and manageable web server, caching server, load balancing, e-commerce server, firewalls, or mail server. Pretested firewall solutions are available to simplify deployment.

### e-commerce

Leading performance and I/O bandwidth, in-box scalability, rack-optimized form factor (five per standard 2-meter rack), and high availability, plus Internet management features and HP WebQoS Peak for web service stabilization.

### ERP (supply-chain management)

High availability, Internet manageability, and scalable performance support demanding end-to-end enterprise applications.

### technical computing

Best-in-class performance and throughput, N+1 redundant components, extensive memory capabilities, and clustering solutions to meet the demands of computation, NFS file serving, product design management, and web hosting.

## stress-free

### make your business your focus

The HP 9000 L-Class servers and solutions handle the demands of users and customers efficiently and reliably—so you can concentrate on doing business, not managing your IT resources.

### always available

- A host of in-box high-availability features to maximize server uptime.
- Affordable high-availability clustering solutions based on industry-leading HP MC/Serviceguard.
- Self-healing capabilities, a first for entry-level servers, proactively avoid faults to improve uptime.
- Part of the HP always-on infrastructure, delivering end-to-end solutions for business and technology needs.

### proven technology

- HP is the revenue leader in commercial UNIX servers—and has been since 1993.
- Over 1.5 million HP-UX systems installed worldwide.
- Proven 64-bit HP-UX 11, with over 30,000 deployments in mission-critical environments.

### total solution support

- Options ranging from web-based service to the mission-critical 6-hour Call-to-Repair commitment.
- "One-stop" solution support delivered with partners like Cisco, Oracle, SAP, BroadVision, Inktomi, RealNetworks, and many more.

### capacity on demand

- Instant Capacity on Demand (iCOD)—up to three iCOD CPUs installed and ready for use.
- When you need capacity, remote activation allows you to pay for only what you use.

### powerful alliances

- Partnerships with industry-leading software vendors and systems integrators to deliver robust solutions from e-commerce to ERP.

## the #1 UNIX server family

The L-Class entry-level 2-way L1000 server; price/performance leader L2000 server; and high performance, more scalable 4-way L3000 server are part of the Business-Critical Proven HP 9000 line—servers that set the standards for Internet-Age computing and total cost of ownership. Simple in-chassis upgrades let you move up the line, as your business grows. HP servers provide the hardware foundation for HP's always-on infrastructure. Always-on combines leading technology with proactive and reactive services. HP offers complete, end-to-end solutions that include hardware, software, applications, services, support, consulting, and an extensive portfolio of experienced partners, so you can get to market quickly with a single source of expertise. The HP 9000 server family is #1 among UNIX servers from the top down—starting with the high-end Superdome, going to the N-Class midrange performance leader and the scalable entry-level L-Class, and rounding out the family with the highly rackable A-Class servers for Internet applications and branch offices.

# I-class features and benefits at-a-glance

features	benefits
<b>smart</b>	
1–4 550MHz PA-8600 CPUs (L3000) and 1–4 (L2000) and 1–2 (L1000) 64-bit 360MHz or 440MHz PA-8500 or 540MHz PA-8600 CPUs with 1.5MB on-chip cache per CPU	Superior performance over comparable systems, including class-leading power (L3000), with plenty of headroom for growth
Up to 16GB (L3000 and L2000) or 8GB (L1000) SDRAM memory with advanced ECC protection	Fast and reliable processing power for frequently accessed data
7U chassis with up to 5 servers per standard 2-meter rack, also available in stand-alone (pedestal) configuration	Optimizes use of floor space and delivers high-performance density in a racked configuration
Easy in-box upgrades from the L1000 to the L2000 to the L3000	Architectural scalability enables these servers to grow with the business, maximizing flexibility and investment protection
Future support of IA-64 and PA-RISC	Provides investment protection through dual growth path
Cost-optimized version of HP 9000 N-Class core electronics	Scales unique reliability, manageability, and architectural features of the HP's N-Class down into a low-cost package
Up to 10 (L3000 and L2000) or 5 (L1000) PCI I/O slots, with 3.2GB/s (L3000) or 2.1GB/s (L2000 and L1000) I/O bandwidth	Easily handles I/O-intensive applications and allows the system to scale I/O, CPUs, and memory without compromise
Core I/O including 100Base-T LAN with auto speed-sensing, a second 10Base-T support LAN, Ultra2 LVD SCSI, and RS-232	Provides easy, ready-to-go networking capabilities
Up to 4 internal 9GB, 18GB, 36GB or 73GB Ultra2 SCSI hot-plug high-uptime disks	Store critical data with massive internal capacity
1 internal DVD or DAT drive	Protects critical data
HP secure web console (bundled) and central web console for full local, web, and remote control of servers	Provide complete single-system and multisystem administration capabilities, including a range of security features, from any browser-based PC
Built-in fault management system with separate support processor and bus HP's integrated Event Monitoring Services (EMS)	Provide superior system up time through constant, proactive fault avoidance, detection, and notification; monitor power, cooling system hardware, processors, memory, HP-UX resources, and external storage
Integrated with HP MC/Serviceguard, HP Tootools for Servers, and enterprise management software, such as HP Openview and CA Unicenter	
Integrated HP WebQoS Peak	Stabilizes website performance under heavy loads to improve site reliability and transaction throughput
Integrated web server options provide configuration flexibility	Choose ease of deployment for emerging websites or optimized performance for high-traffic websites
HP e-speak open software platform development kit for creating and deploying e-services	Enables discovery and brokering services; as well as location transparency and billing capabilities
<b>simple</b>	
HP global deployment and partner integration services	Offer guaranteed error-free solution deployment to reduce implementation time and cost
Flexible financing programs	Make initial ownership and modular growth easy and affordable
HP Onsite Solution consolidated manufacturing, streamlined product assembly and testing, and state-of-the-art integration	Ensure superior quality and faster delivery
HP e-products site	Enables quick L-Class product configuration and fast, online ordering
Complimentary web-based HP-UX training	Simplifies deployment with self-paced training for beginners up to advanced systems administrators
<b>stress-free</b>	
Error-correcting cache, parity checking on all buses, memory scrubbing and page deallocation, dynamic processor resilience, and deallocation of application processes	Built-in high-availability features deliver superior levels of <ul style="list-style-type: none"> <li>• error correction,</li> <li>• error containment, and</li> <li>• serviceability</li> </ul> to help maximize uptime for business-critical workgroups and applications
Dual Ultra2 SCSI buses and controllers for mirrored storage	
Hot-swap, redundant power supplies and fans; redundant, hot-plug PCI (10 slots); Ultra2 SCSI hot-plug disks	
Pretested and preintegrated workgroup clustering solutions based on HP MC/Serviceguard	Deliver complete, ready-to-go solutions for clustered high availability that eliminate all single points of failure, at an affordable price
Built-in unlimited user license for proven 64-bit HP-UX 11i, 11	Robust, highly available operating environment optimized for the Internet
3-year onsite service warranty and HP services and support options ranging from web-based support to mission-critical, 6-hour Call-to-Repair commitment; includes full solution support for hardware and software	Reduce risk through worldwide support for business-critical computing; provide "one-stop shopping" for support through partnerships with Cisco, Oracle, SAP, BroadVision, Inktomi, RealNetworks and others

## stay ahead of the internet curve

configuration options	L1000	L2000	L3000
HP PA-RISC Processor	360MHz or 440MHz PA-8500 or 540MHz PA-8600	360MHz or 440MHz PA-8500 or 540MHz PA-8600	550MHz PA-8600
SMP Configuration	1 to 2 CPUs	1 to 4 CPUs	1 to 4 CPUs
Supported OS Versions	HP-UX 11i, 11	HP-UX 11i, 11	HP-UX 11i, 11
Minimum/Maximum Memory	256MB/8GB	256MB/16GB	256MB/16GB upgradable to 32GB with future DRAM
On-Chip Cache (Data/Instr)	1MB/512KB	1MB/512KB	1MB/512KB
Total I/O Slots	5	10	10
Internal Removable Media Bays	1	1	1
Maximum Internal Disk Capacity	292GB (4 Disk Bays)	292GB (4 Disk Bays)	292GB (4 Disk Bays)
Standard I/O Features	Ultra2 SCSI, 100Base-T LAN, 3 RS-232 ports, 10Base-T support LAN, and web-based console		
Supported I/O Connectivity	Ultra2 SCSI LVD (single and dual port), FWD SCSI (single and dual port), Fibre Channel, Gigabit Ethernet, 100Base-TX (single and quad port), 100Base-FX, ATM 155Mbps (MMF, UTP-5), ATM 622Mbps (MMF), FDDI Dual Attach LAN, Token Ring 100Mbps; X.25/FR/SDLC (dual port), Multiplexer (8 and 16 port)		

## environmental specifications

Electromagnetic Interference	Complies with FCC Rules and Regulations, part 15, as a Class A digital device. Manufacturer's Declaration to EN55022 Level A, VCCI Registered, Class I, Korea RLL
AC Input Power	100-240V 50/60Hz
Maximum Current Requirements	13.8 Amps at 110V
Maximum Power Dissipation	1283 Watts
Physical Dimensions	Depth: 774mm (30.5 in) Width: 482mm (19.0 in) Height: 368mm (14.5 in)/7 EIA units Weight: 68kg (150 lb)
Operating Temperature	+5°-35°C (41°-95°F)
Nonoperating Temperature	-40°-65°C (-40°-149°F)
Maximum Rate of Temperature Change	20°C/hour
Operating Relative Humidity	15% to 80%, noncondensing, max. wet bulb = 26°C
Nonoperating Relative Humidity	5% to 90%, noncondensing
Operating Altitude	To 3.0km (10,000 ft) above sea level
Nonoperating Altitude	To 4.5km (15,000 ft) above sea level

### for more information

Contact any of our worldwide sales offices or HP Channel Partners (in the U.S. call 1-800-637-7740) or visit our HP 9000 L-Class enterprise servers website at <http://www.hp.com/go/l-class>.

HP product information and technical documentation are available online. In addition, configuration tools and pricing information allow registered users to place orders online.

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