

hp e3000  
business servers



n-class  
product brief



*redefining midrange computing  
for the internet age*

## new performance boost

Managing an IT infrastructure today requires quick time-to-solutions, the ability to work within tight budget constraints, and the highest standards for customer service and operational efficiency.

To create and run an infrastructure for an always-on business, you need a computing platform that will support the way you and your customers do business. The newly updated HP e3000 N-Class servers, based on the PA-8700 technology, give your business a fast and reliable means of succeeding in this new business environment.

The HP e3000 N-Class servers deliver the proven performance, scalability, and high-availability capabilities of MPE/iX without high maintenance requirements and costs. In other words, an HP e3000 N-Class is the smart choice for demanding applications.

And there's plenty of room to grow. You can start at a low-price entry mid-range point and scale up to the high-end with leading 4-way MPE/iX performance—in the same rack-optimized cabinet. HP, and its industry-leading solution partners, have developed business solutions for these servers that are tested, easy to deploy, and easy to manage.

## performance leadership

HP e3000 N-Class servers offer leading mid-range and high-end server performance, dynamic scalability, and unmatched investment protection—all in a rack-optimized package. At the entry mid-range, the N-Class has 60-100% improved performance over the previous offering and provides an inexpensive growth path for the future. At the high end, performance of these servers has increased by more than 35%.

Along with its leading performance, the N-Class delivers scalable functionality. It features:

- industry-leading OLTP performance (up to four PA-8700 750-MHz processors and up to 16 GB of memory)
- massive bandwidth for I/O-intensive applications—supports 12 PCI I/O slots
- seamless scalability with simple in-box upgrades that enable you to scale up in power as your business grows
- rack-optimized to make the best use of valuable data-center floor space

## powerful yet compact

The HP e3000 N-Class server packs high performance into a sleek package. Its superior rackability—with four servers to a rack—provides massive performance density to give you maximum power per square foot. This midrange form factor helps to meet your consolidation needs and space constraints.



## delivering high performance in a sleek package

The bottom line is you not only get more power for the price, you also get unique flexibility that works the way you want it.

### seamless integration and manageability

The HP e3000 N-Class server with a complete set of the industry's best management tools gives you easier and better control over your IT system. These tools, which are ready to plug seamlessly into the enterprise, provide a state-of-the-art platform for minimizing operational and administrative costs while ensuring maximum availability. They include HP Workload Manager/iX, integrated Secure Web Console management, extended fault management and advanced software administration tools.

The software administration tools include HPINSTAL. This allows you to create standard MPE/iX server configurations that can be copied to multiple servers, which greatly simplifies and speeds up your application installation and deployment.

HP Secure Web Console is one of the most flexible management features available today. Integrated into the core I/O, it allows you to control your HP e3000 N-Class server from any browser worldwide and eliminates unnecessary trips to the data center.

### features and benefits

#### features

Up to 2 64-bit 380-MHz PA-8700 and up to 4 500-MHz and 750-MHz PA-8700 CPUs with 2.25 MB on-chip cache per CPU

Up to 16 GB SDRAM memory with advanced ECC protection

12 PCI I/O slots, with up to 6.4 GB/s of aggregate I/O bandwidth and an independent I/O channel per PCI slot with full parity checking

Core I/O including 100Base-T LAN with auto speed sensing, Ultra2 LVD SCSI, and integrated Secure Web Console for Web-based management

4 servers per standard 2-meter rack

8.5 GB/s memory bus and 4.3 GB/s system bus

Built-in extended fault detection system

Hot-swap, redundant power supplies with optional third power supply for N+1 protection; redundant AC power inputs; hot-swap, N+1 cooling system; hot-plug PCI I/O subsystem

Factory preloading of MPE/iX operating system and software products, plus integration of CPUs, memory, disk drives, and I/O cards

Robust, secure, Internet-ready MPE/iX 7.5 operating system and integrated HP IMAGE/SQL database, with unlimited user license

Support for HP SharePlex/iX high availability cluster solution; proactively shifts workloads to maximize mission critical application availability

Comprehensive portfolio of services, including deployment services and proactive and reactive support

HP-UX server hardware conversion kits (available from HP at no charge)

#### benefits

One of the fastest microprocessors, based on HP's PA-RISC, delivers superior performance

Large memory capacity for handling complex applications; very fast and reliable processing power for frequently accessed data

Reliable, expandable I/O connections that allow the system to scale both CPUs and I/O without compromise or trade-off; easily handles I/O-intensive applications without risk of becoming "I/O bound"

Advanced I/O technology built in for easy, ready-to-go networking capabilities; control of servers over the intranet from any location worldwide

Superior rackability that optimizes use of floor space and delivers unprecedented performance density

Massive bus bandwidth provides a well balanced architecture without bottlenecks

Separate support processor and bus for extended fault management of power, cooling, and system board outages; integrated with Event Monitoring Service (EMS) for instant problem notification

Single-system high availability features to maximize uptime

Expert integration and configuration for a quick, worry-free start

Delivers an excellent computing solution for enterprise or Internet-focused users and also for distributed applications and sites while eliminating the added cost of a third-party database and user license upgrades

Leading MPE/iX clustering solution features automatic application failover, minimizing both planned and unplanned downtime

Minimizes time-to-productivity and maximizes system availability

Provides investment protection when transitioning to HP rp7400 servers



## configuration options

### model numbers

	<b>N4000-100-380/ N4000-200-380</b>	<b>N4000-100-500/ N4000-200-500/ N4000-300-500/ N4000-400-500</b>	<b>N4000-300-750/ N4000-400-750</b>
hp product numbers	A6103C	A6914C	A7014C
microprocessor supported	PA-8700 @ 380 MHz	PA-8700 @ 500 MHz	PA-8700 @ 750 MHz
number of processors	1 to 2 CPUs	1 to 4 CPUs	3 to 4 CPUs
operating system support	MPE/iX 7.5	MPE/iX 7.5	MPE/iX 7.5
relative performance	15/27	20/37/52/65	79/100
memory (minimum; maximum)	1 GB; 16 GB/ 2 GB; 16 GB	1 GB; 16 GB/ 2 GB; 16 GB/ 3 GB; 16 GB/ 4 GB; 16 GB	6 GB; 16 GB/ 8 GB; 16 GB
on-chip cache (instr./data)/CPU	750 KB/1.5 MB (2.25 MB total)	750 KB/1.5 MB (2.25 MB total)	750 KB/1.5 MB (2.25 MB total)
I/O slots	12	12	12
I/O devices			
internal disk drives	2	2	2
internal disk capacity maximum	146 GB	146 GB	146 GB
external storage capacity maximum using disk arrays	100 TB	100 TB	100 TB
tape drives maximum	32	32	32
system printers maximum	8	8	8
serial printers maximum	250	250	250
connected workstations maximum	3300	3300	3300
standard I/O features	<ul style="list-style-type: none"> <li>- Ultra2 LVD SCSI port</li> <li>- 10/100Base-TX LAN</li> <li>- 3x RS-232 ports for console, remote access, and UPS connections</li> <li>- integrated Secure Web Console</li> </ul>		
supported I/O connectivity	<ul style="list-style-type: none"> <li>- PCI 2 GB/s Fibre Channel</li> <li>- Ultra160 SCSI LVD (single and dual port)</li> <li>- Ultra2 SE/LVD SCSI (single and dual port)</li> <li>- ULTRA HVD SCSI (single and dual port)</li> <li>- 10/100Base-TX LAN</li> <li>- 802.5 FDDI via a switch</li> <li>- X.25 via a DTC</li> <li>- SNA and NS point-to-point via 8-channel ACC card</li> </ul>		

In addition, its built-in fault management provides the effective operation response your business needs. In fact, even the slightest problem with your server will send an instant alert to your support staff or HP Support Center.

## bolstered by the most reliable operating system around

MPE/iX 7.5, the robust Internet-ready operating system that provides legendary reliability and interoperability, further boosts the capabilities of HP e3000 N-Class. MPE/iX 7.5 is integrated with HP IMAGE/SQL database to deliver superior OLTP performance without the added cost of a third-party database.

MPE/iX 7.5 features a number of important tools for ensuring system and application availability. HP Predictive Support software, which is bundled with the OS, further increases system uptime by proactively identifying possible processor, memory or mass storage problems before they can take the system down.

HP e3000 N-Class server also offers hot-swap, redundant components for robust single-system high availability. The combination of the N-Class server with HP SharePlex/iX clustering solution keeps mission-critical applications available and shifts workloads where and when necessary.

## solutions for today's business requirements

Whether you're looking to extend your business reach, to serve your customers better, or simply to run your business more efficiently, HP and its partners have the leading-edge enterprise and Internet solutions that make it possible. The HP e3000 N-Class servers are particularly well suited to many popular application areas, such as manufacturing, retail, financial services, education and government.

## the company that helps you evolve

HP will help you evolve and transition your business intelligently and rapidly. In addition to the best set of servers for your applications, we can offer a wide range of programs and services that help make the most of your technology investment over the lifetime of your HP e3000 N-Class servers.

HP Services provides consulting, applications porting and migration, deployment, and even outsourcing to ensure fast, successful implementations and long-lasting value. HP Education can help to improve the efficiency and effectiveness of your staff via the classroom or the Web.

HP also can help you select the appropriate support level to meet your needs, from standard Web-based support to mission-critical support services that provide the ultimate in uptime. Finally with flexible financing programs and services, HP makes it easy to own HP e3000 N-Class servers.



## environmental and regulatory 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
safety	UL Listed, CSA Certified, TUV GS Mark, compliant with EN 60950 and EN 41003
AC input power	200V-240V; 50/60Hz
maximum current requirements	13.8 Amps at 220V (6.9 Amps per unit)
maximum power dissipation	3000 Watts
physical dimensions	height: 445 mm (17.5 in)/10 EIA units width: 482 mm (19 in) depth: 812 mm (35 in) weight: 90 kg (200 lbs)
operating temperature	+5° to 35° C (41° to 95° F)
non-operating temperature	-40° to 65° C (-40° to 149° F)
maximum rate of temperature change	20°C/hour
operating relative humidity	15% to 80% at 5° to 40°C non-condensing, maximum wet bulb = 26° C
non-operating relative humidity	5% to 90% at 65°C, non-condensing
operating altitude	To 3.0 km (10,000 ft) above sea level
non-operating altitude	To 4.5 km (15,000 ft) above sea level

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