**IBM** *e*server® **p5 510 Express server**



*e*server *p5 510 Express drawer*

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## Highlights

■ *Simplified acquisition, installation and management*

■ *Mainframe-inspired reliability, availability, serviceability (RAS) features and IBM service*

■ *Flexibility to run the vast library of UNIX® and Linux® applications simultaneously*

To accomplish their goals, many smaller and midsized organizations need the same computing power, reliability and flexibility in their IT systems as large organizations. But few such companies have the resources to buy or manage complex systems.

The IBM *e*server® p5 510 Express server is an attractively priced, compact, high-performing server with reliability features, intended for smaller companies as well as departments and branches of midsized businesses. Easy to buy, install and manage, the

p5-510 Express can help companies realize their goals without stretching their resources. With leading-edge IBM POWER5™ processor technology, a range of tools to ease management, support for both UNIX and Linux environments and enterprise-level reliability and availability features, the p5-510 Express is an excellent solution for many business-critical applications, including ERP, CRM, e-mail, workgroup server, file and print, Web serving and e-commerce. Whether it is used as a standalone company server, branch server or security or knowledge server, the p5-510 Express can deliver outstanding performance at an affordable price.

**Simplified acquisition, deployment and management**
The p5-510 Express system is simple to buy, install and manage. With multiple purchasing options and available IBM Global Financing, the p5-510 Express can be easily acquired.

Specially priced Value Pak offerings provide pre-configured options with financial incentives for processor, memory and disk drive packages. Value Paks help companies customize systems quickly while delivering exceptional value. Memory, disk drives or adapters can be added to a p5-510 Express Value Pak without affecting the savings.

With its compact, 2U (two EIA units) rack drawer form factor, the p5-510 Express is rack-mounted in an industry-standard 19" rack.  It can help organizations simplify their infrastructure by fitting lots of computing power into a fraction of the space of many other 2-way UNIX operating systems.

For ongoing systems management, the p5-510 Express offers easy-to-use tools that can reduce IT burdens. Tivoli® systems management and provisioning tools enable administrators to perform a range of essential functions easily. These and other streamlined management tools can help enhance efficiency while helping lower server operating costs.

**Outstanding performance in a small package**
The fifth generation POWER5 processors, running at 1.5 GHz clock speed, deliver high performance to run many demanding business applications and still leave room for tomorrow's growth. The p5-510 Express server is designed to help companies do more work with fewer computer systems.

The p5-510 Express system can be scaled easily to meet a company's growing needs. Equipped with 512MB of memory in its minimum configuration, the p5-510 Express can accommodate up to 32GB of memory. Internal disk capacity can be scaled up to 587GB. The p5-510 Express can also be connected to a range of external devices through the external SCSI port and three PCI-X slots.

As an option, the p5-510 Express offers advanced IBM Virtualization Engine™ system technologies with Micro-Partitioning™ capabilities to optimize the use of system resources. With the

IBM Virtualization Engine, multiple copies of operating systems can be run on the same system, reducing the number of servers that need to be run and helping to reduce software licensing costs. Micro-Partitioning technology allows processors to be finely divided (up to ten micro-partitions per processor) so that more work can be executed on a single processor. At the same time, application data running on one partition is completely shielded from data on another partition to provide a high level of data security and increased application availability.

The use of these leading-edge technologies means that companies can get more done in less physical space and for less expenditure.

**Mainframe-inspired RAS features and IBM service for peace of mind**
Though the p5-510 Express server comes in a small package, it is loaded with mainframe-inspired features that

help to ensure high reliability and availability of applications. The p5-510 Express is equipped with a built-in service processor, which can be monitored remotely, check system operations continuously and take preventive or corrective action for quick problem resolution. First Failure Data Capture (FFDC) capabilities help to identify and log problems before system failures occur. IBM error checking and correction (ECC)/Chipkill™ memory technology detects and corrects memory errors to help prevent costly system crashes.

The p5-510 Express server also includes features to help ensure outstanding availability and serviceability. Redundant hot-plug cooling and an optional redundant hot-plug power supply help administrators keep the server running around the clock. Dynamic firmware update capabilities enable administrators to update servers without taking them offline. For near-continuous operations, the

p5-510 Express can use IBM High Availability Cluster Multiprocessing (HACMP™) to provide automatic failover to another AIX 5L™ system in the case of failure.[1]

The p5-510 Express is backed by worldwide service and support from IBM. The three-year end-to-end basic warranty includes hardware fixes, staffed phone hardware support and call tracking.

As an alternative for clients who want local support, the p5-510 is also supported regionally or locally by IBM trained and certified business partners.

**Flexibility and ease of management**
The p5-510 Express server supports the AIX 5L and Linux operating systems, thereby delivering the flexibility to

run the vast library of available applications. Both AIX 5L and Linux may be run simultaneously on a single p5-510 Express server for potential cost savings through server consolidation.

AIX 5L™ is an industrial-strength UNIX environment specially tuned for application performance and loaded with exceptional RAS features. The AIX 5L operating system (OS) delivers enhancements to Java™ technology, Web performance and scalability for managing clusters of all sizes. Web-based remote management tools give administrators centralized control of the system, enabling them to monitor key resources, including adapter and network availability, file system status and processor workload.

By supporting the Linux OS, the p5-510 Express server offers important cost-saving opportunities. Because Linux is an open source technology,

it can be less expensive to license than many proprietary operating systems. With a growing list of Linux applications available, it provides the freedom to use the right applications for organizations' needs. The Linux OS is available from IBM and selected Linux distributors in packages that include a range of open source tools and applications. IBM is firmly committed to Linux and offers expert service and support.

**Resetting the standard for entry-level systems**

A compact design and powerful processors make the p5-510 Express an excellent choice for many smaller and midsized retail, wholesale, distribution, financial services, insurance and healthcare companies that require standalone or remote servers. With its outstanding performance, mainframe-inspired RAS features, flexible support for both AIX 5L and Linux operating systems and affordable price, the p5-510 Express resets the standard for entry-level servers.

**Not too big. Not too small. Designed for midsized businesses, the IBM Express Portfolio of offerings is just right. Each and every offering that's part of the IBM Express Portfolio is certified to ensure three simple features:**

**1. Easy to install and deploy**

**2. Easy to manage**

**3. Competitively priced**

**The IBM Express Portfolio of offerings are scalable and have the features and functionality you'll need to meet your technology needs, including hardware, software, services and financing. Since they are priced just right for midsized businesses, you know you'll get more out of your investment.**

## p5-510 Express at a glance

| Available configurations | |
|---|---|
| Microprocessors | 1- or 2-way 64-bit 1.5 GHz POWER5 processors |
| Level 2 (L2) cache | 1.9MB |
| Level 3 (L3) cache | 36MB (on 2-way system only) |
| RAM (memory) | 512MB to 32GB of 266 MHz DDR1 SDRAM |
| Internal disk storage | 587.2GB |
| Internal SCSI disk bays | Up to four (73.4/146.8GB 10K rpm or 36.4/73.4GB 15K rpm disks) |
| Media bays | One slimline for optional DVD-ROM or DVD-RAM |
| Adapter slots | Three 133 MHz full-length PCI-X |

| Standard features | |
|---|---|
| I/O ports | Dual channel Ultra320 SCSI controller (one internal, one external) |
| | Two Ethernet 10/100/1000 Mbps ports, one external SCSI port, two limited purpose serial, two USB, two HMC ports |

| Connectivity support (optional) | 2 Gigabit Fibre Channel; 10 Gigabit Ethernet |
|---|---|

| Logical partitioning support | Dynamic LPAR* |
|---|---|

| IBM Virtualization Engine systems technologies (optional) | Micro-Partitioning |
|---|---|
| | Shared processor pool |
| | Virtual I/O |
| | Virtual LAN |

| RAS features | |
|---|---|
| | Copper and silicon-on-insulator (SOI) microprocessors |
| | Dynamic firmware updates (planned for 2Q 2005) |
| | IBM Chipkill ECC, bit-steering memory |
| | ECC L2 cache, L3 cache (on 2-way system only) |
| | Service processor |
| | Front access hot-swappable disk bays |
| | LED indicators for failing parts |
| | Hot-plug power supplies and cooling fans |
| | Dynamic Processor Deallocation |
| | Dynamic deallocation of logical partitions and PCI bus slots |
| | Extended error handling for PCI-X slots |
| | Redundant cooling fans |
| | Redundant power supply (optional) |

| Operating systems | AIX 5L Versions 5.2/5.3 |
|---|---|
| | SUSE LINUX Enterprise Server 9 for POWER™ (SLES 9) or later |
| | Red Hat Enterprise Linux AS 3 for POWER Update 4 (RHEL AS 3) or later |

| Power requirements | 100v to 127v or 200v to 240v AC |
|---|---|

| System dimensions | Rack drawer: 3.5"H x 17.2"W x 27.0"D (89mm x 437mm x 686mm); weight 16.8 kg (37 lb)** |
|---|---|

| Warranty | Three years (limited), 8 A.M. to 5 P.M., next-business-day for three years (limited) at no additional cost; on-site for selected components; CRU (customer replaceable unit) for all other units (varies by country). Warranty upgrades, IBM install support and maintenance are available. |
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\* Available with AIX 5L and SLES 9 operating systems

\*\* Weight will vary when disks, adapters and peripherals are installed.

**For more information**

To learn more about the IBM @**server**
p5 510 Express server, please contact
your IBM marketing representative or
IBM Business Partner, or visit the
following Web sites:

- **ibm.com**/eserver/pseries
- **ibm.com**/severs/aix
- **ibm.com**/linux/power
- **ibm.com**/common/ssi
- www.express-portfolio.com/ibm

Many of the pSeries features described in this
document are operating system dependent and
may not be available on Linux. For more
information, please check:
**ibm.com**/servers/eserver/pseries/linux/
whitepapers/linux_pseries.html

[1] Statement of direction: IBM intends to provide
High Availability Cluster Multiprocessing V5.2
support on the p5-510 Express running AIX 5L
V5.2 and V5.3 by second quarter 2005.