

Powerful, expandable entry systems designed for the on demand world



IBM @server p5 550 servers



@server p5 550 rack system with I/O drawer

Highlights

- **IBM Power Architecture™ technology offers exceptional price/performance and flexibility**
- **Optional IBM Virtualization Engine with Micro-Partitioning™ functions helps increase utilization and productivity**
- **Flexible Capacity on Demand features help provide cost-effective scalability**

The IBM @server® p5 550 system is a new breed of up to 4-way UNIX® or Linux® server designed to meet the rigors of the on demand world. It delivers outstanding price/performance, main-frame-inspired availability features, flexible capacity upgrades and innovative IBM Virtualization Engine™ systems technologies. Powered by IBM's most advanced 64-bit processor, POWER5™, with simultaneous multi-threading to support critical enterprise software systems with exceptional price/performance—all while helping improve affordability and responsiveness.

The @server p5 550 can serve as a versatile departmental or regional server for enterprise applications running on either AIX 5L™, IBM's industrial-strength UNIX, or Linux operating environments. The performance, reliability and affordability of the p5-550 can make it a strategic platform for server consolidation, scalable database servers, e-commerce application servers, Web servers, operations systems, business intelligence (BI) and high performance computing (HPC) workloads. The p5-550 also offers flexible Capacity on Demand (CoD) features to help reduce IT costs by allowing companies to pay for resources they use when they use them.

Extensive configurability

Built for extensive attachability, the p5-550 offers tremendous configuration flexibility to meet most capacity and growth requirements. Clients have extensive growth potential with up to 64GB of memory, up to eight optional I/O drawers resulting in 15.2TB of disk storage and up to 60 hot-plug PCI-X slots in a choice of 19" rack-mount or deskside packages. In addition, as many as 64 p5-550 systems may be included in a single HPC cluster. For the ultimate in IBM server availability, the p5-550 can be clustered with HACMP™ software designed to provide near continuous availability.

IBM Virtualization Engine technologies help drive utilization and improve productivity

The @server p5 550 server features breakthrough technologies for a UNIX or Linux entry system. IBM Virtualization Engine systems technology, optionally available on the p5-550 system, provides innovations like Micro-Partitioning which allows businesses to increase system utilization while helping to ensure applications continue to get the resources they need. IBM Micro-Partitioning technology helps lower costs by allowing the system to be finely tuned to consolidate multiple independent AIX 5L and Linux workloads. Virtual servers as small as 1/10th

of a processor can be defined in increments as small as 1/100th of a processor. Dynamic logical partitioning helps assign system resources (processors, memory and I/O) for faster non-disruptive response to changing workload requirements.

Innovations like the optional virtual I/O allow the sharing of expensive disk drives, communications adapters and Fibre Channel-attached disks and help drive down complexity and systems/administrative expenses. The shared processor pool allows for automatic non-disruptive balancing of processing power between partitions assigned to the shared pool—resulting in increased throughput and utilization.

Growth on demand

The Capacity on Demand (CoD) optional features can help p5-550 systems to meet changing resource requirements in an on demand environment by using processor resources installed on the system but not activated at the time of the original systems purchase:

- **Capacity Upgrade on Demand (CUoD)** allows companies to purchase additional permanent processor capacity to be activated when the resource is needed.

- **Trial CoD** offers a one-time, no-additional-charge 30-day trial to allow clients to explore the uses of inactive processor capacity on their server.
- **Reserve CoD** allows companies to purchase processor features in pre-paid blocks of 30 processor days and activate them in full day increments in response to workload demand and then to automatically deactivate the processors when the demand subsides.
- **On/Off CoD** enables processors to be temporarily activated in full day increments as needed.

Mainframe-inspired RAS features help keep on demand systems available

The @server p5 550 system features many of the same mainframe-inspired reliability, availability and serviceability features as larger @server p5 models, helping keep the system up and running around the clock. The p5-550 extends the pSeries heritage of world-class RAS to an entry system by introducing concurrent firmware updates, in which applications remain operational while IBM system firmware is updated for most operations; and finer-grained L2 cache deallocation, improved L3 cache line deletes and ECC cache for better self-healing capabilities.

IBM @server p5 550: the new standard in up to 4-way entry UNIX and Linux servers

Specially priced Value Paks for p5-550 servers are easy to customize and order. With extensive features designed to meet the needs of mission-critical environments, Value Pak configurations are available at a cost savings from standard prices for an outstanding value. Additional memory, disk drives or adapters can be easily added to the p5-550 Value Pak without impacting the savings.

The combination of flexible expansion and outstanding reliability/availability features and advanced virtualization technologies make the p5-550 system

an outstanding choice for retail, wholesale distribution, financial services, public sector, industrial and communications environments. With a choice of desktside or rack-mount form-factors, this server is designed to be easy to install, integrate and manage. Based on these qualities, the p5-550 is designed to give small- to medium-sized businesses enterprise-class on demand computing without compromising availability, performance or security—at an affordable cost.

The IBM @server p5 550 sets a new standard for entry up to 4-way UNIX and Linux servers.



@server p5 550 desktside system

p5-550 at a glance

Available configurations

Microprocessors	2- or 4-way 64-bit 1.65 GHz POWER5 processors
Level 2 (L2) cache	1.9MB per processor card
Level 3 (L3) cache	36MB per processor card
RAM (memory)	1GB – 64GB
Internal storage	15.2TB (with optional I/O drawers)
Processor-to-memory bandwidth	25.5GB/sec for 4-way configurations
L2-to-L3 cache bandwidth	52.8GB/sec for 4-way configurations
RIO-2 I/O subsystem bandwidth	8.8GB/second
Internal disk bays	Four standard plus four optional (36.4/73.4/146.8GB 10K rpm or 36.4GB/73.4GB 15K rpm disks)
Media bays	Two slimline and one standard
Adapter slots	Five hot-plug 64-bit PCI-X (four long and one short), 3.3 volt

Standard features

I/O adapters	Dual ported integrated Ultra320 SCSI controller (RAID optional); two Ethernet 10/100/1000 controllers
Ports	Two serial, two USB, two HMC ports, keyboard and mouse

I/O expansion (optional)

Up to eight 7311-D20 I/O drawers, each providing seven 3.3v 64-bit PCI-X slots and up to 12 disk bays (36.4/73.4/146.8GB 10K rpm or 36.4/73.4GB 15K rpm disks)

Connectivity support

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

Capacity on Demand features (optional)

Processor CUoD
Reserve CoD
On/Off CoD for processors
Trial CoD for processors

p5-550 at a glance

RAS features

Copper and silicon-on-insulator (SOI) microprocessors
Concurrent firmware updates (planned for 4Q 04)
IBM Chipkill™ ECC, bit-steering memory
ECC L2 cache, L3 cache
Service processor
Hot-swappable disk bays
Hot-plug PCI-X slots (on base system and I/O drawers)
Blind-swap PCI-X slots on I/O drawers
Hot-plug power supplies and cooling fans
Dynamic Processor Deallocation
Dynamic deallocation of logical partitions and PCI bus slots
Redundant cooling fans
Optional redundant power supply

Operating systems

AIX 5L Versions 5.2/5.3
SUSE LINUX Enterprise Server 9 (SLES 9)
Red Hat Enterprise Linux 3

Power requirements

100v to 127v; 200v to 240v AC

System dimensions

Deskside 21.0"H x 7.9"W x 30.7"D (533 mm x 201 mm x 779 mm); weight 41.4 kg (91 lb)*
Rack drawer 7.0"H x 17.2"W x 28.8"D (178 mm x 437 mm x 731 mm); weight 41.4 kg (91 lb)*
7311-D20 I/O drawer 7"H x 17.5" W x 24"D (178 mm x 445 mm X 610 mm); weight 45.9 kg (101 lb)*

Warranty

8 A.M. to 5 P.M., next-business-day for one year (limited) at no additional cost; on-site for selected components; CRU (customer replaceable units) for all other units (varies by country).
Warranty upgrades and maintenance are available.

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

For more information

To learn more about the IBM **@server** p5 550 system, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web sites

[:ibm.com/eserver/pseries](http://ibm.com/eserver/pseries)

ibm.com/common/ssi



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Many of the IBM **@server** p5 features described in this document are operating system-dependent and may not be available on Linux. For more information, please visit ibm.com/servers/eserver/pseries/linux/whitepapers/linux_pseries.html.

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