IBM Power 550 Express server

Power 550 Express deskside and rack-mount servers

Highlights

- **For UNIX®, IBM i (formerly known as i5/OS®) and Linux® ERP/CRM application servers**

- **For mid-size database servers**

- **For consolidation of UNIX, IBM i, and x86 Linux workloads**

- **For medium to large-sized businesses running the IBM i operating system**

The IBM Power™ 550 Express delivers the outstanding performance of the POWER6™ processor—the world's fastest chip. The performance and virtualization capabilities of the Power 550 Express make it an ideal system as a mid-size database or application server. The Power 550 delivers the performance to run applications faster and more efficiently, which can result in business advantages.

For mid-size database servers, the Power 550 Express provides outstanding performance, capacity and near-continuous application availability. Mid-sized companies can access data faster, keep their applications running around the clock, and focus attention on growing their business.

The Power 550 Express supports an extensive portfolio of proven solutions by supporting multiple operating systems: AIX®, IBM i, Linux for Power and x86 Linux applications. This flexibility in operating environments lets you deploy the applications your business demands.

As a consolidation server, the Power 550 Express provides the flexibility to use leading-edge AIX, IBM i, Linux for Power and x86 Linux applications all on the same system. PowerVM™ Editions offers comprehensive virtualization technologies designed to aggregate and manage resources while helping to simplify and optimize your IT infrastructure and reduce server sprawl.

For a scalable, complete integrated business system, the Power 550 Express allows the mid-sized company seeking simplicity to avoid increased spending and staffing requirements while becoming more responsive to their customers, improving their productivity and keeping their data secure. The Power 550 Express—i Edition integrates features to simplify an IT environment and delivers a complete, cost-effective business system that grows with a business.

The Power 550 Express is a 2-, 4-, 6- or 8-core entry server utilizing 3.5 or 4.2 GHz processors and includes tremendous configuration flexibility to meet most capacity and growth requirements. The Power 550 Express offers a choice of operating environments in either a deskside or 4U rackmount form factor. The platform is designed to deliver outstanding business value to medium-sized businesses with the leadership performance of POWER6 processors, choice of operating systems, proven virtualization

capabilities of PowerVM, and support for innovative energy management technologies to help conserve energy and reduce costs. Whether you need a scalable complete business system with integrated database and application server, reliable and efficient server consolidation platform or a high performing system for application or database serving, the Power 550 Express server can fulfill your requirements with the AIX, IBM i or Linux operating systems.

Feature	Benefits
Leadership POWER6 performance	• Access data faster and improve response time • Do more work with fewer servers and experience infrastructure cost savings from a reduction in the number of servers and software licenses
Outstanding scalability and capacity	• Easily grow the system as your business grows • Consolidate UNIX and Linux workloads utilizing PowerVM Editions
Application availability	• Broad portfolio of proven solutions with support for AIX, IBM i, Linux for Power and x86 Linux operating systems • Keep applications up and running and focus on growing your business
Flexibility and choice of AIX, IBM i, and Linux operating systems	• Choose the operating system that best suits your application and business needs • Easily grow the system as your business grows
Improved utilization and energy efficiency through PowerVM and EnergyScale™ technologies	• Better utilize IT assets while avoiding the costs of deploying a new server every time the business needs another application • Go green and save with innovative energy management capabilities
Integration and simplicity	• Deploy applications faster and maintain systems more efficiently with fewer staff • Integrated business platform that allows all the applications to access the data they need to improve productivity

Leadership POWER6 performance

The leadership performance of the POWER6 processor—the world's fastest chip—makes it possible for applications to run faster and be more responsive, which can result in business advantages and higher client satisfaction. In addition, a single system can now run more applications and can reduce the number of required servers reducing infrastructure costs. The improved performance with POWER6 also enables clients to get more processing power with fewer processors resulting in lower per core software licensing costs.

Outstanding scalability and capacity

The IBM Power 550 Express offers tremendous configuration flexibility to meet most capacity and growth requirements. Supporting up to four POWER6 processor cards with each card having up to 64 GB of memory results in a maximum configuration of eight processor cores and 256 GB of memory. Combining the capacity capabilities of the Power 550 Express with PowerVM technology may help simplify and optimize your IT infrastructure, reduce server sprawl and improve energy efficiency.

Application availability

The Power 550 Express is designed with capabilities to deliver near-continuous application availability and allow more work to be processed with less operational disruption. RAS capabilities include recovery from intermittent errors or failover to redundant components, detection and reporting of failures and impending failures, and self-healing hardware that automatically initiates actions to effect error correction, repair or component replacement. In addition, the Processor Instruction Retry feature provides for the continuous monitoring of processor status with the capability to restart a processor if certain errors are detected. If required, workloads can be redirected to alternate processors, all without disruption to application execution.

Flexibility and choice of operating environments

The flexibility to use leading-edge AIX, i, Linux for Power and x86 Linux applications in a rack-mount or desk-side form factor broadens the application offerings available and increases the ways clients can manage growth, complexity and risk. Leverage these easy-to-manage, easy-to-secure, and highly reliable operating systems to run thousands of proven industry solutions that are sure to fit the needs of almost any business.

Improved utilization and energy efficiency

As the price of energy increases and resources are limited, energy efficiency through better utilization has become more important. The leadership performance of the IBM Power 550 Express translates into greater computing power for applications. Combine this leadership performance with PowerVM Editions to virtualize your infrastructure and improve server utilization and energy efficiency. Supported by the AIX, IBM i and Linux for Power operating systems, PowerVM Editions provide an innovative set of comprehensive systems technologies and services designed to enable you to easily aggregate and manage virtualized resources. Micro-partitions enable the Power 550 Express to be split into a flexible and highly utilized system. IBM Systems Director Active Energy Manager™ exploits POWER6 processor-based EnergyScale technology which monitors power/thermal utilization and conserves power by enabling power management features for improved system utilization and energy efficiency.

Integration and simplicity

The Power 550 Express—i Edition delivers an integrated and highly secure system that is designed to simplify your IT environment. The Power 550 Express—i Edition can help you reduce the number of servers, reduce management costs and reduce maintenance and licensing costs, opening the door for reinvestment into business growth.

Power 550 Express at a glance

Configuration options

Processor cores	Two, four, six or eight[1] 64-bit 3.5 GHz or 4.2 GHz POWER6 with AltiVec™ SIMD and Hardware Decimal Floating-Point acceleration
Level 2 (L2) cache	8 MB per processor card
Level 3 (L3) cache	32 MB per processor card
RAM (memory)	3.5 GHz: 1 GB to 128 GB of DDR2 SDRAM
	4.2 GHz: 1 GB to 256 GB of DDR2 SDRAM
Internal SAS disk bays	Six 3.5" SAS (73.4 GB, 146.8 GB, 300 GB 15K rpm)
Internal disk storage	Up to 1.8 TB; up to 30.6 TB with eight optional 7311-D20 I/O drawers
Media bays	One slimline and one half-high
Adapter slots	Two PCI-X (266 MHz DDR); Three PCI Express 8x

Standard I/O adapters

Integrated Virtual Ethernet	• Two Ethernet 10/100/1000 Mbps ports, or
	• Four Ethernet 10/100/1000 Mbps ports, (option) or
	• Two 10 Gigabit Ethernet ports (option)
Integrated disk	3G SAS controller (internal; RAID optional)
Other Ports	Three USB, two HMC, two system ports, two SPCN

Expansion features (optional)

High-performance PCI adapters	4 Gigabit Fibre Channel; 10 Gigabit Ethernet
I/O expansion	Up to eight I/O drawers (combination of 7311-D20 and/or 7314-G30)[1]
GX adapters	RIO-2, 12x GX
GX slots	Two (each shares space with and replaces one PCI Express 8x slot)

PowerVM technologies

POWER Hypervisor™	LPAR, Dynamic LPAR, Virtual LAN (Memory to memory inter-partition communication)
PowerVM Express Edition (optional)	Up to three partitions on the server; PowerVM Lx86; virtualized disk and optical devices (VIOS); Shared Processor Pool; and Integrated Virtualization Manager (IVM)
PowerVM Standard Edition (optional)	PowerVM Express Edition plus Micro-Partitioning™ with up to 10 micro-partitions per processor; Multiple Shared Processor Pools; Shared Dedicated Capacity
PowerVM Enterprise Edition[2] (optional)	PowerVM Standard Edition plus Live Partition Mobility

Power 550 Express at a glance

RAS features	IBM Chipkill™ ECC, bit-steering memory and cache
	Processor Instruction Retry
	Service processor with fault monitoring
	Hot-plug disk bays
	Hot-plug PCI slots
	Hot-plug and redundant power supplies and cooling fans
	Dynamic Processor Deallocation
	Extended error handling on PCI-X slots
Operating systems	AIX V5.3 or later
	IBM i V5.4 or later
	SUSE Linux Enterprise Server 10 for POWER™ (SLES10 SP1) or later; Red Hat Enterprise Linux for POWER Version 4.5 (RHEL4.5) or later
High availability	IBM PowerHA™ family
Power requirements	100v to 127v or 200v to 240v AC, -48v DC
System dimensions	Deskside: 21.3"H x 7.2-11.1"W x 30.6"D (540 mm x 183-283 mm x 778 mm); weight: 120.0 lb (54.4 kg)[3]
	Rack drawer: 6.9"H (4U) x 17.3"W x 28.7"D (175 mm x 440 mm x 730 mm); weight: 120.0 lb (54.4 kg)[3]
	7311-D20 I/O drawer: 7.0"H (4U) x 19.0"W x 24.0"D (178 mm x 482 mm x 610 mm); weight: 101.0 lb (45.9 kg)[3]
	7314-G30 I/O drawer: 7.0"H (4U) x 17.5"W x 24.0"D (178 mm x 445 mm x 610 mm); weight: 44.0 lb (20.0 kg)[3]
Warranty	9 hours per day, Monday through Friday (excluding holidays), next-business-day for one year (limited) at no additional cost; on-site for selected components; CRU (customer replaceable unit) for all other units (varies by country). Warranty service upgrades and maintenance are available.

For more information

To learn more about the IBM
Power 550 Express server, please con-
tact your IBM marketing representative
or IBM Business Partner, or visit the fol-
lowing Web sites:

- **ibm.com**/systems/power/
- **ibm.com**/systems/i/os/i5os/
- **ibm.com**/aix
- **ibm.com**/linux/power
- **ibm.com**/systems/p/solutions
- **ibm.com**/common/ssi

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All performance information was determined in a
controlled environment. Actual results may vary.
Performance information is provided "AS IS"
and no warranties or guarantees are expressed
or implied by IBM. Buyers should consult other
sources of information, including system
benchmarks, to evaluate the performance of a
system they are considering buying.

When referring to storage capacity, total TB
equals total GB divided by 1000; accessible
capacity may be less.

1 Available configuration options are dependent
on the number of processor cores, processor
speed and other factors. The IBM i operating
system is supported on 2- and 4-core
configurations only. Contact IBM or your
IBM Business Partner for specific configuration
restrictions.

2 Not supported on IBM i V5.4, V6.1.

3 Weight will vary when disks, adapters and
peripherals are added.