

Innovative, modular, scalable system designed for server consolidation, application and database serving



IBM Power 560 Express server



Power 560 Express rack drawers

Highlights

- ***For consolidation of UNIX, IBM i, and x86 Linux workloads***
- ***For mid-size to large database servers***
- ***For UNIX®, IBM i (formerly known as i5/OS®) and Linux® ERP/CRM application servers***

The IBM Power™ 560 Express delivers up to 16 cores of scalability with the outstanding performance of the POWER6™ processor—the world's fastest chip. The performance, reliability, and virtualization capabilities of the Power 560 Express make it an ideal system as a consolidation, database or application server. The Power 560 delivers the performance and scalability to run applications faster and the virtualization and availability features to consolidate workloads to be more efficient and reduce infrastructure costs.

As a consolidation server, the Power 560 Express provides the flexibility to use leading-edge AIX®, IBM i, Linux for Power and x86 Linux applications all on the same system. The Power 560 Express is designed with capabilities to deliver near-continuous application availability and allow more work to be processed with less operational disruption. 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 database servers, the Power 560 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 560 Express supports an extensive portfolio of proven solutions by supporting multiple operating systems: AIX, i, Linux for Power and x86 Linux applications. This flexibility in operating environments lets you deploy the applications your business demands.

The IBM Power 560 server implements outstanding price/performance, reliability and availability features, and scalability to 16-cores at 3.6GHz. Based on IBM POWER6 processors and a scalable, 4U (EIA Units) building block package, the 19-inch rack-mount Power 560 delivers performance, scalability, reliability, and PowerVM virtualization features for commercial and technical applications. Whether you need a reliable and efficient server consolidation platform scalable or a high performing system for application or database serving, the Power 560 Express server can fulfill your requirements with the AIX, IBM i or Linux operating systems.

The IBM Power 560 platform offers a powerful one or two building block system that scales from 4- to 16-cores. The system's modular architecture means you can start with a 4-core system and easily add processors to upgrade to an 8-core system. A second building block can also be added when more processing power is needed to expand the server to 16-cores. With the Power 560 Express server, you have fewer management challenges because of its symmetric multiprocessor (SMP) building block technology. Additional I/O and storage capacity come standard with each building block added.

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 decrease 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 560 Express offers tremendous flexibility to meet most capacity and growth requirements. The Power 560 is a one or two building block system that scales from 4- to 16-cores. The system's modular architecture means you can start with a 4-core system and easily add processors to upgrade to an 8-core system. A second building block can also be added when more processing power is needed to expand the server to 16-cores. The maximum configuration is 16 processor cores and 384 GB of memory. Combining the capacity capabilities of the Power 560 Express with PowerVM technology may help simplify and optimize your IT infrastructure, reduce server sprawl and improve energy efficiency.

Application availability

The Power 560 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 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. The IBM i operating system delivers an integrated and highly secure system that is designed to simplify your IT environment and 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.

Improved utilization and energy efficiency

As the price of energy increases and resources are limited, energy efficiency through better utilization has become more important. Leverage the POWER6 processor—the world's fastest chip—and the PowerVM Standard or Enterprise Editions to virtualize your infrastructure and improve server utilization and energy efficiency. Supported by the AIX, i and Linux 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-partitioning enables the Power 560 Express to be split into a flexible and highly utilized system.

Power 560 Express at a glance

Configuration options

Processor cores	Four, eight or sixteen 64-bit 3.6GHz POWER6 with AltiVec™ SIMD and Hardware Decimal Floating-Point acceleration
Level 2 (L2) cache	4 MB L2 cache per core
Level 3 (L3) cache	32 MB L3 cache shared per two cores
RAM (memory)	8 GB to 384 GB of DDR2 SDRAM
Internal SAS disk bays	Six 3.5" SAS drives per 560 building block; Maximum of 12 drives
Internal disk storage	Up to 2.7 TB per 560 building block
Media bays	One hot plug slimline per 560 building block
Adapter slots	560 building block: Four PCI Express 8x slots; Two PCI-X DDR @ 266 MHz

Standard I/O adapters

Integrated Virtual Ethernet	<ul style="list-style-type: none">• 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 per building block; Maximum of two
Other Ports	Four USB, two HMC, four SPCN

Expansion features (optional)

High-performance PCI adapters	4 Gigabit Fibre Channel; 10 Gigabit Ethernet
I/O expansion	Up to twelve I/O drawers
GX slots	Two for 4- or 8-way; Three for a 16-way (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 Standard Edition (optional)	Micro-Partitioning with up to 10 micro-partitions per processor; Multiple Shared Processor Pools; Virtual I/O Server; Shared Dedicated Capacity; PowerVM Lx86
PowerVM Enterprise Edition ² (optional)	PowerVM Standard Edition plus Live Partition Mobility

Power 560 Express at a glance

RAS features

IBM Chipkill™ ECC, bit-steering memory and cache
Processor Instruction Retry
Alternate Processor Recovery
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 6.1 or later
SUSE Linux Enterprise Server 10 for POWER™ (SLES10 SP1) or later; Red Hat Enterprise Linux 4.5 for POWER (RHEL4.5) or later; RHEL5.1 or later

High availability

IBM PowerHA™ family

Power requirements

200v to 240v AC

System dimensions

560 building block: 6.85"H (4U) x 19.0"W x 32.4"D (174 mm x 483 mm x 824 mm); weight 140.0 lb (63.6 kg)¹

Warranty (limited)

9 hours per day, Monday through Friday (excluding holidays), next-business-day for one year at no additional cost; on-site for selected components; CRU (customer replaceable unit) for all other components; units (varies by country). Warranty service upgrades and maintenance are available.



For More Information

To learn more about the IBM Power 560 Express server, please contact your IBM marketing representative or IBM Business Partner, or visit the following 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

Information concerning non-IBM products was obtained from the suppliers of these products or other public sources. Questions on the capabilities of the non-IBM products should be addressed with the suppliers.

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

² Information not available.

© Copyright IBM Corporation 2008

IBM Corporation
Integrated Marketing Communications
Systems and Technology Group
Route 100
Somers, NY 10589

Produced in the United States
October 2008
All Rights Reserved

This document was developed for products and/or services offered in the United States. IBM may not offer the products, features, or services discussed in this document in other countries.

The information may be subject to change without notice. Consult your local IBM business contact for information on the products, features and services available in your area.

All statements regarding IBM future directions and intent are subject to change or withdrawal without notice and represent goals and objectives only. These are identified by SOD.

IBM, the IBM logo, AIX, Chipkill, EnergyScale, i5/OS, IBM Systems Director Active Energy Manager, Micro-Partitioning, Power, POWER, POWER6, POWER Hypervisor, PowerHA and PowerVM are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both. A full list of U.S. trademarks owned by IBM may be found at: ibm.com/legal/copytrade.shtml.

The Power Architecture and Power.org wordmarks and the Power and Power.org logos and related marks are trademarks and service marks licensed by Power.org.

UNIX is a registered trademark of The Open Group in the United States, other countries or both.

Linux is a trademark of Linus Torvalds in the United States, other countries or both.

AltiVec is a trademark of Freescale Semiconductor, Inc.

Other company, product and service names may be trademarks or service marks of others.

IBM hardware products are manufactured from new parts, or new and used parts. In some cases, the hardware product may not be new and may have been previously installed. Regardless, our warranty terms apply.

Photographs show engineering and design models. Changes may be incorporated in production models.

Copying or downloading the images contained in this document is expressly prohibited without the written consent of IBM.

This equipment is subject to FCC rules. It will comply with the appropriate FCC rules before final delivery to the buyer.