IBM Power 720 Express server

Reliable, secure and flexible server for UNIX, IBM i and Linux workloads

Highlights

- Reliable, secure distributed application server or consolidation server for UNIX®, IBM i and Linux® workloads

- IBM i delivers a highly scalable and virus-resistant architecture with a stable database and middleware foundation for efficiently deploying business processing applications

Like many companies, you may be facing the challenge of an overly complex IT environment. As your business grows, your computing needs increase. Implementing and managing new applications can mean adding more servers, which increases spending and staffing requirements. Now more than ever, you need a system that can help you become more responsive to your customers, improve productivity, operate without interruption and secure your data and systems—all without making large upfront investments in time, skills or money. You need a business system that is there when you need it and grows with your business.

As a distributed application server, the IBM Power® 720 Express is designed with capabilities to deliver leading-edge application availability and enable more work to be processed with less operational disruption for branch office and in-store applications. As a consolidation server, PowerVM™ Editions provide the flexibility to use leading-edge AIX®, IBM i, Linux for Power and x86 Linux applications and offer comprehensive virtualization technologies designed to aggregate and manage resources while helping to simplify and optimize your IT infrastructure and deliver one of the most cost-efficient solutions for UNIX, IBM i and Linux deployments.

The Power 720 Express with IBM i provides a technology foundation with proven reliability and security for the small or midsized company seeking a complete, integrated business system to avoid increased spending and staffing requirements while becoming more responsive to your customers, improving productivity and keeping data secure. IBM i integrates features to simplify your IT environment and delivers a complete, cost-effective business system that can grow with a business and the Power 720 delivers the performance and capacity to run new and existing core business applications on a single server, to greatly integrate and simplify your IT environment.

Come see why so many clients are moving to IBM Power Systems™. Reliable and secure, the Power 720 Express is a one-socket server that supports up to eight POWER7® cores in a flexible 4U rack-optimized or tower form factor. The performance, availability, and flexibility of the Power 720 can enable you to spend more time running your business utilizing a proven solution from thousands of ISVs that support the AIX, IBM i and Linux operating systems.

Power is the performance that delivers business advantage

The leadership performance of the POWER7 processor makes it possible for applications to run faster with fewer processors, resulting in lower per core software licensing costs. In addition, a single system can now run more applications and reduce the number of required servers, lowering infrastructure costs.

Power is availability you can count on

The Power 720 Express is designed with capabilities to deliver leading-edge 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

Power 720 Express tower and rack-mount servers

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 are redirected to alternate processors, all without disruption to application execution.

The Power 720 Express implements Light Path diagnostics, which provide an obvious and intuitive means to positively identify failing components. This allows your system engineers and administrators to easily and quickly diagnose hardware problems. Hardware failures that may have taken hours to locate and diagnose can now be detected in minutes, avoiding or significantly reducing costly down time.

Power is effortlessly balancing workload performance

POWER7 **Intelligent Threads** technology enables workload optimization by automatically switching between one, two and four execution threads per processor core in order to optimize application throughput. In addition, **Active Memory™ Expansion** is a new POWER7 technology that enables the effective maximum memory capacity to be much larger than the true physical memory without the complexity and cost of installing additional memory devices. These workload-optimizing capabilities can improve application performance and ROI from the server.

Power is dynamic energy optimization

EnergyScale™ Technology offers **Intelligent Energy** management features, which can dramatically and dynamically conserve power and further improve energy efficiency. These Intelligent Energy features enable the POWER7 processor to operate at a higher frequency if environmental conditions permit, for increased performance and performance per watt; or alternatively, operate at a reduced frequency if user settings permit, for significant energy savings.

Feature	Benefits
Leadership POWER7 performance	• Access data faster and improve response time • Do more work with fewer servers and benefit from infrastructure cost savings from a reduction in the number of servers and software licenses
RAS Features	• Keep applications up and running so you can focus on growing your business
Light Path Diagnostics	• Easily and quickly diagnose hardware problems, reducing service time
PowerVM Virtualization	• Easily add workloads as your business grows • Utilize the full capability of the system to reduce infrastructure costs by consolidating workloads running the AIX, IBM i or Linux operating • Provides ability to handle unexpected workload peaks by sharing resources
Intelligent Threads	• Optimize performance by selecting the suitable threading mode for your application
Active Memory Expansion	• Enables more work to be done with existing server resources
Flexibility and choice of AIX, IBM i and Linux operating systems	• Choose the operating environment that best suits your application and business needs
IBM Systems Director Active Energy Manager™ with EnergyScale Technology	• Dramatically and dynamically improve energy efficiency and lower energy costs with innovative energy management capabilities • Enables businesses to continue operations when energy is limited

Power 720 Express at a glance

Configuration options	
POWER7 processor modules—one per processor card	4-core 3.0 GHz or 6-core 3.0 GHz or 8-core 3.0 GHz
Sockets	1
Level 2 (L2) cache	256 KB per core
Level 3 (L3) cache	4 MB per core
Memory	8 GB to 128 GB of RDIMM DDR3 Active Memory Expansion
Solid-state Drives (SSD)	Up to eight SFF drives or
Disk drives	Up to eight SFF SAS drives
Disk capacity	Up to 2.4 TB
Media bays	Slimline for DVD-RAM Half height for tape drive or removable disk
PCI Adapter slots	Four PCI Express 8x and optional Four PCI Express Low Profile
Standard I/O adapters	
Integrated Virtual Ethernet	Four Ethernet 10/100/1000 Mbps ports (or) Two 10 Gigabit Ethernet ports
Integrated SAS controller	One controller for SAS DASD/SSD and DVD-RAM Optional protected 175 MB cache
Other integrated ports	Three USB, two HMC, two system ports, two SPCN
GX slots (12X)	One GX++[1]

Power 720 Express at a glance

Expansion features (optional)	
I/O expansion	Up to 2 PCIe 12X I/O drawers Up to 4 PCI-X DDR 12X I/O drawers
High-performance PCI adapters	8 Gigabit Fibre Channel; 10 Gigabit Ethernet, 10 Gigabit Fibre Channel over Ethernet
Other PCI adapters supported include	SAS, SCSI, WAN/Async, USB, Crypto, iSCSI
PowerVM technologies	
POWER® Hypervisor™	LPAR, Dynamic LPAR, Virtual LAN (Memory-to-memory interpartition communication)
PowerVM Express Edition (optional)	Up to three partitions on the server; PowerVM Lx86; VMControl, virtualized disk and optical devices (VIOS); Integrated Virtualization Manager (IVM); Shared Dedicated Capacity
PowerVM Standard Edition (optional)	PowerVM Express Edition plus Micro-Partitioning™ with up to 10 micropartitions per processor; Multiple Shared Processor Pools
PowerVM Enterprise Edition (optional)	PowerVM Standard Edition plus Live Partition Mobility (LPM) and Active Memory Sharing (AMS)
RAS features	ECC memory with Chipkill Processor Instruction Retry Alternate Processor Recovery Service processor with fault monitoring Hot-plug disk bays Hot-plug and redundant power supplies and cooling fans Dynamic component Deallocation
Operating systems[2]	AIX IBM i Linux for POWER
High availability	IBM PowerHA™ family
Power requirements	100 V to 240 V ac, single phase
System dimensions	Tower: 21.3" H x 7.2 - 12.9" W x 27.0" D (541 mm x 183 – 328.5 mm x 688 mm); weight: 106 lbs (48.2 kg)[3] Rack Drawer: 6.9" H x 17.3" W x 24.0" D (173 mm x 440 mm x 610 mm); weight: 82 lbs (37.3 kg)[3]
Warranty (limited)	9 hours per day, Monday through Friday (excluding holidays), next business day for three years 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 720 Express server, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

- **ibm.com**/systems/power/
- http://www-03.ibm.com/systems/power/software/i/
- http://www-03.ibm.com/systems/power/software/aix/
- http://www-03.ibm.com/systems/power/software/

IBM Maintenance and Technical Support solutions can help you get the most out of your IT investment by reducing support costs, increasing availability and simplifying management with integrated support for your multiproduct, multivendor hardware and software environment. For more information on hardware maintenance, software support, solution support and managed support, visit: **ibm.com**/services/maintenance

Financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. For more information on IBM Global Financing, visit: **ibm.com**/financing

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 1,000; accessible capacity may be less.

[1] GX slot shares space with 4 PCI Express 8x low profile option. Available configuration options are dependent on the number of processor cores and other factors. Contact IBM or your IBM Business Partner for specific configuration restrictions.

[2] See facts and figures document for detailed OS level support.

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

POWER7
BUILT ON

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