IBM Power 710 Express server

A high-performance, reliable and secure infrastructure and application server

Highlights

- A high-performance, energy efficient, reliable and secure infrastructure and application server in a compact 2U package. With POWER7® workload-optimizing technologies, the Power® 710 Express server can deliver fast transactions with the AIX®, IBM i and Linux® operating systems.
- An easy-to-buy, install and manage server that can seamlessly fit into your existing infrastructure, resulting in faster deployment time and time to value

Built on the leadership performance of the POWER7 processor, the Power 710 Express is a one-socket server that supports up to eight POWER7 cores in a dense, rack-optimized form factor. As a high-performance infrastructure or application server, the Power 710 Express contains innovative workload-optimizing technologies that improve performance based on client computing needs and **Intelligent Energy** features that help increase performance and optimize energy efficiency resulting in one of the most cost-efficient solutions for UNIX®, IBM i and Linux deployments.

The Power 710 Express is a high performance, easy-to-own, energy efficient, elegantly simple and reliable server. The Power 710 Express server is fueled by the outstanding performance of the POWER7 processor with a choice of AIX, IBM i or Linux operating systems and solutions from thousands of ISVs that can set your business apart from the competition.

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 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

IBM Systems Director Active Energy Manager™ exploits **EnergyScale™** technology, enabling **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.

Power is availability you can count on

The Power 710 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 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.

Power 710 Express rack-mount server

The Power 710 Express implements Light Path diagnostics, which provide an obvious and intuitive means to positively identify failing components. This allows 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 downtime.

Power is the ability to dynamically allocate resources

Take advantage of the scalability and capacity of the Power 710 Express by leveraging our industrial-strength PowerVM technology to fully utilize the system. PowerVM allows any individual LPAR to access the maximum amount of memory and CPU cores that are available in the server. PowerVM offers this capability to dynamically adjust system resources to partitions based on workload demands, enabling a dynamic infrastructure that dramatically reduces server sprawl via massive consolidation of applications and servers. In addition, optional components in PowerVM Editions are designed to provide advanced virtualization technologies, resulting in efficiencies in resource utilization and cost 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
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
RAS Features	• Keep applications up and running so you can focus on growing your business
Light Path Diagnostics	• Expedite hardware repairs and reduce service time
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 710 Express at a glance

Configuration options	
POWER7 processor modules—one per system	4-core 3.0 GHz or 6-core 3.7 GHz or 8-core 3.55 GHz
Sockets	1
Level 2 (L2) cache	256 KB per core
Level 3 (L3) cache	4 MB per core
Memory	8 GB to 64 GB of RDIMM DDR3 Active Memory Expansion
Solid-state Drives (SSD)	Up to six SFF drives or
Disk drives	Up to six SFF SAS drives
Disk capacity	Up to 1.8 TB
Media bays	Slimline for DVD-RAM Half height for tape drive[1] or removable disk
PCI Adapter slots	Four PCI Express 8x 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
GX slots	One GX++

Power 710 Express at a glance

Expansion features (optional)	
High-performance PCI adapters	8 Gigabit Fibre Channel; 10 Gigabit Ethernet, 10 Gigabit Fibre Channel over Ethernet
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	Rack Drawer: 3.4"H x 17.6"W x 28.6"D (86 mm x 447 mm x 728 mm); weight 62 lbs (28.2 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 710 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/
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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 1,000; accessible capacity may be less.

[1] Tape support results in three SFF bays, one tape bay and one DVD

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

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

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