IBM Power 520 Express server

Perfect for branch office applications, small databases or a complete business system

Highlights

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

- For small database servers

- For small scale consolidation servers for UNIX, IBM i and Linux workloads

- For a complete business system with an integrated database and application server

As a distributed application server, the IBM Power® 520 Express® provides near-continuous application availability at a compellingly low price. This allows more work to be processed with less operational disruption for branch office and in-store applications

As a small database server, the Power 520 Express offers the outstanding performance of the IBM POWER6® processor—the world's fastest chip. This leadership performance makes it possible for applications to run faster and be more responsive which can result in significant advantages for your business.

As a small scale consolidation server, the 520 Express provides the flexibility to use leading-edge AIX®, IBM i, Linux for Power and x86 Linux applications all on the same system. IBM PowerVM™ Editions offer comprehensive virtualization technologies designed to aggregate and manage resources while helping to simplify and optimize your IT infrastructure and reduce server sprawl.

For a complete integrated business system, the Power 520 Express allows the small or 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 520 Express—i Edition integrates features to simplify your IT environment and delivers a complete, cost-effective business system that can grow with a business.

The IBM Power 520 Express is a 1-, 2- or 4-core entry server utilizing 4.2 GHz or 4.7 GHz POWER6 processors designed to deliver outstanding business value to smaller and mid-sized businesses while meeting the needs of many mission-critical applications. It offers outstanding price/performance in a commercial IT environment; a breadth of available applications; superior reliability, availability, serviceability (RAS) characteristics architected to avoid, detect and recover from errors to achieve near-continuous availability; EnergyScale™ technologies and software tools to measure energy use and direct policies toward the energy-efficient operation of the server; and outstanding PowerVM virtualization to help achieve increased system utilization. This highly flexible, available and easy to manage server enables companies to spend more time running their business utilizing a proven solution from thousands of ISVs that support the AIX, IBM i and Linux operating systems.

Power 520 Express deskside and rack-mount servers

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
Application availability	• 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 environment that best suits your application and business needs
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 customer satisfaction. In addition, a single system can now run more applications and can reduce the number of required servers and reduce infrastructure costs. The improved performance with POWER6 technology also enables clients to get more processing power with fewer processors resulting in lower per core software licensing costs.

Application availability

The IBM Power 520 Express is designed with capabilities to deliver outstanding application availability and allow more work to be processed with less operational disruption. The Power 520 Express 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 RAS 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. In combination with the optional PowerVM Enterprise Edition with Live Partition Application Mobility, the Power 520 delivers near-continuous application availability.

Flexibility and choice of operating environments

The flexibility to use leading-edge AIX, IBM i, Linux for Power and x86 Linux applications in a rack-mount or deskside 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 environments 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 520 Express translates into greater available computing power for applications and allows you to leverage PowerVM Editions and virtualize your infrastructure to improve server utilization and energy efficiency. Supported by the AIX, IBM 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-partitions enable the Power 520 to be split into a flexible and highly utilized system. IBM Systems Director Active

Energy Manager™ software exploits POWER6 processor-based EnergyScale technology which monitors power/thermal utilization and conserves energy by enabling power management features for improved system utilization and energy efficiency.

Integration and simplicity

With IBM i, the Power 520 Express becomes a highly scalable, virus resistant server that integrates a trusted combination of relational database, security, web services, networking and storage management capabilities. The preintegration and testing of the IBM i operating system is a key factor in enabling companies to deploy applications faster and maintain them with fewer staff. Running applications based on this IBM i operating system has helped companies over many years to focus on innovation and delivering new value to their business.

Power 520 Express at a glance

Standard configurations	
Processor cores	One, two or four 64-bit 4.2 or 4.7 GHz POWER6 with AltiVec™ SIMD and Hardware Decimal Floating-Point acceleration[4]
Level 2 (L2) cache	4 MB per processor core
Level 3 (L3) cache	32 MB on 4.7 GHz
RAM (memory)	2 GB to 64 GB of DDR2 SDRAM[1]
Internal drive options	Six 3.5 in. SAS (146.8 GB, 300 GB, 450 GB 15K rpm) or Eight 2.5 in. SAS (73.4 GB 15K rpm; 146.8 GB 10k rpm) or Eight Solid State Drives (69 GB)
Internal SAS disk storage	Up to 2.7 TB
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

Power 520 Express at a glance

Expansion features (optional)	
High-performance PCI adapters	4 Gigabit Fibre Channel, 10 Gigabit Ethernet
GX adapters	RIO-2, 12x GX
GX slots	Two (first shares space with and replaces a 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; Virtual I/O Server with IVM; Shared Dedicated Capacity
PowerVM Enterprise Edition[2] (optional)	PowerVM Standard Edition plus Live Partition Mobility

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 5.4 or later[5]
	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	
	100 V to 127 V or 200 V to 240 V ac

System dimensions	
	Deskside: 21.3 in. H × 7.2 - 12.9 in. W × 24.7 in. D (540 mm × 182 - 328 mm × 628 mm); weight: 90 lb (40.8 kg)[3]
	Rack drawer: 6.8 in. H (4U) × 17.3 in. W × 21.2 in. D (173 mm × 440 mm × 538 mm); weight: 70 lb (31.7 kg)[3]

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 units (varies by country). Warranty service upgrades and maintenance are available.

For more information

To learn more about the IBM Power 520 Express server, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

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

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

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] Available configuration options are dependent on the number of processor cores and other factors. For example, 1-core systems may have a maximum memory size of 16 GB and do not support I/O drawers; 2-core systems may have a maximum of 32 GB of memory. Contact IBM or your IBM Business Partner for specific configuration restrictions.

[2] Not supported on IBM i 5.4, 6.1.

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

[4] Select frequencies will not be offered on some configurations.

[5] i 5.4 not supported on 4.7GHz configurations.

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Power™

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