IBM Power L1024

Create agility with a flexible and protected hybrid cloud infrastructure

Highlights

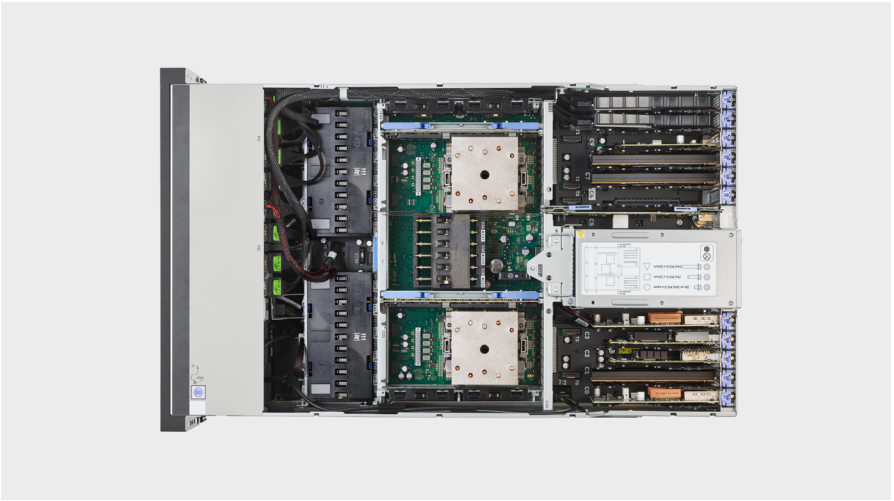
Protect data from core to cloud with memory encryption at the processor level and four times more crypto engines in every core compared to Power9

Streamline insights and automation with four Matrix Math Accelerators per core for faster AI inferencing

Deliver two times better memory reliability and availability than industry-standard DIMMs with Active Memory Mirroring

The core applications, data stores and processes that run your business simply cannot go down, no matter what. With accelerated digital adoption, the demands on these applications are increasing, along with the related security risks. To stay ahead of the curve, your IT system needs to be modernized to meet the challenges of today. This requires an infrastructure platform that efficiently scales to meet new demands, protects your applications and data with pervasive and layered defenses, and enables you to transform data into insights quickly.

The IBM® Power® L1024 is a 2-socket, 4U Power10 processor-based server optimized for Linux®-based workloads such as SAP HANA. With more than double the cores compared to IBM Power9® processor-based servers, workloads can be consolidated on fewer systems, reducing software licensing, electrical and cooling costs. With the Power L1024 server, you only pay for what you need while retaining the ability to share resources across your systems, including previous generations. Data is protected from end-to-end with memory encryption on the processor, while downtime is minimized thanks to the industry-leading reliability and availability of Active Memory Mirroring.



Protect data from core to cloud with memory encryption at the processor level and four times more crypto engines in every core compared to Power9

With data residing in increasingly distributed environments, you cannot set a perimeter to it anymore. This reinforces the need for layered security across your IT stack. The Power10 family of servers introduces a new layer of defense with transparent memory encryption. With this feature, all stored data remains encrypted when in transit between the memory storage and processor. Since this capability is enabled at the silicon level, there is no additional management setup or performance impact. Power10 also includes four times more crypto engines in every core compared to Power9 processor-based servers to accelerate encryption performance across the stack. These innovations, along with new in-core defense for return-oriented programming attacks and support for post quantum encryption and fully homomorphic encryption, makes one of the most secure server platforms even better.

Streamline insights and automation with four Matrix Math Accelerators per core for faster AI inferencing

As more AI models are deployed in production, the challenges around AI infrastructure are beginning to increase. A typical AI deployment involves sending data from an operational platform to a GPU system. This usually induces latency and may even increase security risks by leaving more data in-network. Power10 addresses this challenge with core AI inferencing and machine learning. The Matrix Math Accelerators (MMAs) in Power10 cores provide the computational strength to tackle demanding AI inferencing and machine learning at multiple levels of precision and data bandwidth.

Deliver two times better memory reliability and availability than industry-standard DIMMs with Active Memory Mirroring

Power L1024 makes the most reliable server platform in its class even better with advanced recovery, diagnostic capabilities, and open memory interface (OMI) attached advanced memory DDIMMs. The continuous operations of today's in-memory systems depend on memory reliability because of their large memory footprint. Power10 DDIMMs deliver two times better memory reliability and availability than industry-standard DIMMs[1], with the option to increase uptime and improve availability even more by implementing Active Memory Mirroring.

Conclusion
IBM Power L1024 delivers on key enterprise needs, allowing organizations to respond faster to business demands with world record performance scalability for core enterprise workloads and a frictionless hybrid cloud experience. Power L1024 also helps businesses protect their data from core to cloud with accelerated encryption and new in-core defense against return-oriented programming attacks. MMAs in Power10 cores allow IT teams to streamline insights and automation with in-core AI inferencing and machine learning, while OMI attached-memory DDIMMs maximize reliability and availability.

For more information
To learn more about IBM Power L1024 and Linux on Power, please contact your IBM representative or IBM Business Partner, or visit ibm.com/it-infrastructure/power/os/linux.

IBM Power L1024	**L1024** **MTM: 9786-42H**
Processor module offerings	12, 16 and 24 Power10 cores
Processor interconnect	4x2B at 32 Gbps
Memory channels per system	16 OMI channels
Memory bandwidth per system (peak)	818 Gbps with 16, 32 and 64 GB DDIMMs
DIMMs per system	32 DDIMMs
Memory capacity per system (max)	8 TB
Acceleration ports	6 ports at 25 Gbps
PCIe lanes per system (max)	128 PCIe G4 lanes at 16 Gbps
PCIe slots per system	4 PCIe G4 x16 or G5 x8 slots 4 PCIe G5 x8 slots 2 PCIe G4 x8 slots
Slots for internal storage controller	General purpose
Internal storage	16 NVMe U.2
I/O expansion drawers (max)	2
Service processor	Enterprise BMC (eBMC)
RAS	Active Memory Mirroring support
Security	Transparent memory encryption (TME)

Notes
1. Based on IBM's internal analysis of the IBM product failure rate of DDIMMS versus industry-standard DIMMs

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