

# IBM Power System E950 – Designed for the dynamic demands of enterprise computing

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## Highlights

- Enhance performance with 4X more threads per core in POWER9 vs. x86
  - Simplify cloud deployment with PowerVC™ & built-in IBM PowerVM™ Enterprise
  - Manage 960 max. VMs on a single server with IBM Advanced Micro-Partitioning
  - Industry-leading reliability with better than five-nines uptime
  - Protect data at rest and in motion with accelerated encryption on the chip
  - Reduce TCA by up to 50% over 3-5 years
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## Blazing performance, extreme agility and industry-leading reliability in a compact 4-socket system

The IBM Power® System E950 offers a unique blend of enterprise-class capabilities in a reliable, space-efficient 4-socket 4U form factor that delivers exceptional performance at an affordable price. With two to four IBM POWER9™ processors in an eight, ten, eleven or twelve core configurations, up to 16 TB of DDR4 memory, built-in PowerVM™ virtualization and Capacity on Demand (CoD), no other 4-socket system in the industry delivers this combination of per-core performance, efficiency and business agility.

The Power E950 is an ideal platform for growing, medium-size businesses and as a departmental server or data center building block for large enterprises.

The open, data-centric design of Power Systems™ combines computing power, memory bandwidth and broad data pathways to process and move data through applications in ways that are easier to consume and manage. The Power E950 server optimizes throughput, using new POWER9 processors that support simultaneous multi-threading of up to eight threads per core (SMT8). Each Single Chip Module has on-chip memory controllers and may utilize up to 128 MB off-chip eDRAM L4 cache to deliver 230 GB/sec of memory bandwidth per socket. I/O bandwidth is also dramatically increased by way of new PCIe Gen4 I/O controllers, directly integrated into the processors to further reduce latency.

The IBM Power E950 is the ideal foundation for a private cloud infrastructure able to power the large-scale, mission-critical applications you need to transform data into a competitive advantage. Each Power E950 comes tailored to your unique requirements and ready to deploy—with enterprise-class security and efficient, built-in IBM PowerVM virtualization.

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*IBM Power System E950*

## IBM Power System E950 at a glance

<b>System configurations</b>	Model 9040-MR9
<b>Processor and Memory</b>	
<b>Processor Cores (POWER9)</b>	Up to 48 cores - 12 core processor sockets at 3.15 to 3.80 GHz (max) Up to 44 cores - 11 core processor sockets at 3.2 to 3.80 GHz (max) Up to 40 cores - 10 core processor sockets at 3.40 to 3.80 GHz (max) Up to 32 cores - 8 core processor sockets at 3.60 to 3.80 GHz (max)
<b>Sockets</b>	2, 3, or 4
<b>Level 2 (L2) cache</b>	512 K
<b>Level 3 (L3) cache</b>	10MB
<b>Level 4 (L4) cache per processor</b>	128 MB
<b>Enterprise Memory (RAM)</b>	Up to 128 DDR4 Industry Standard DIMMs 128GB to 16TB (max)
<b>Processor-to-Memory bandwidth</b>	230GBps per socket
<b>Storage and I/O</b>	
<b>Integrated PCIe adapter slots</b>	Up to 10 hot-swap PCIe Gen4 slots; x16: 4 - 8 (2 per socket), x8: 2 1 PCIe Gen3 x8 slot (reserved for default Ethernet - 2 x 10 Gb LAN)
<b>Internal Storage bays for SAS solid-state drives (SSD) or hard-disk drives, and NVMe U.2 drives</b>	8 hot-swap SFF SAS bays + 4 NVMe bays • SAS HDD/SSD SFF 2.5" 15mm • Standard RAID 0,1,5,6,10 support and SAS Split disk capability • 4x NVMe SSD thin SFF 2.5" 7mm slots
<b>Expansion features (optional - operating system dependencies)</b>	
<b>PCIe Expansion Drawers (12 PCIe Gen3 slots each)</b>	Up to 4
<b>Max DASD/SSD I/O Drawers (24 SFF bays each)</b>	64 EXP24SX I.O drawers
<b>Standard Features</b>	
<b>Flexible Service Processor</b>	1
<b>IBM POWER Hypervisor™</b>	LPAR, Dynamic LPAR; Virtual LAN (Memory to memory inter-partition communication)
<b>PowerVM Enterprise Edition</b>	20 Micro-Partitions per processor; Multiple Shared Processor Pools; Virtual I/O Server; Shared Dedicated Capacity; Live Partition Mobility (LPM) and Active Memory Sharing* (AMS); NovaLink (virtualization management agent)
<b>Reliability, Availability, and Serviceability (RAS) features</b>	First Failure Data Capture Processor instruction retry L2 and L3 Cache ECC protection with cache line-delete Integrated Power/cooling monitor function in processor on chip controller Fabric bus retry with spare data lane Extended Cache line delete Core contained checkstops Memory DIMM support with ECC checking supporting x4 Chipkill IBM memory buffer and Spare DRAM module capability with x4 DIMMs PCIe adapter hot-plug Redundant voltage convertors/power supplies Selective dynamic firmware updates Active Memory Mirroring for Hypervisor (optional)

<b>Capacity on Demand features</b>	Processor and/or Memory Capacity Upgrade on Demand (CUoD) Elastic Processor and/or Memory Capacity on Demand (ECoD) Trail Processor and/or Memory CoD Utility CoD
<b>Cloud Management and Deployment features</b>	IBM Cloud Power VC Manager HMC Apps as a Service IBM API Connect and Websphere Connect Open source cloud automation and configuration tooling for AIX Power to Cloud Rewards - 5,000 points
<b>Operating systems</b>	AIX and Linux
<b>High availability</b>	PowerHA Editions
<b>Power requirements</b>	Operating voltage: 200 to 240V AC
<b>System dimensions</b>	Four EIA (4U) space in a 19-inch rack Width: 449 mm (17.6 in.) Depth: 901.7 mm (35.5 in.) Height: 175 mm (6.9 in.)
<b>Warranty</b>	Standard One-year warranty, 9 AM - 5 PM. Nine hours per day, Monday through Friday (excluding holidays), next business day. Warranty service upgrade is 24x7 (varies by country) and two additional years of maintenance services included at no additional charge (varies by country)

## Why IBM?

For over a century, IBM has pioneered technologies and provided services that help companies manage and mine their valuable business data. And for 25 consecutive years, IBM has topped the annual list of US patent recipients—receiving a record-breaking 9,043 patents in 2017. In addition, IBM Power Systems are trusted by 78 percent of the Fortune 100. Further, every one of the top 10 banking firms have Power Systems, as do 80 percent of the top insurance and retail companies.

## For more information

To learn more about the IBM Power System E950 please contact your IBM representative or IBM Business Partner, or visit the following website:  
<https://www.ibm.com/us-en/marketplace/power-systems-E950>. Additionally, IBM provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit IBM Global Financing.

## Next steps

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