IBM Power E1150

AI-Powered Infrastructure

Smarter. Scalable. Reliable.

Highlights

- Continuous operations
- Quantum-safe security
- Optimized energy use
- Scalable and flexible growth

As enterprises become more data-driven, they face increasing pressure to deliver faster insights, maintain data security, and support hybrid work environments—all while managing tighter budgets and limited IT resources. Modern workloads such as in-memory databases, real-time analytics, and AI/ML applications require infrastructure that is high-performing, resilient, scalable, and increasingly autonomous.

The IBM® Power® E1150 is designed to help address these evolving needs. Built for critical workloads on AIX® or Linux®, it supports application modernization, system consolidation, and integration of advanced AI and analytics. With hybrid cloud readiness via IBM Power Virtual Server, the Power E1150 server enables flexible scaling across on-premises and cloud environments—supporting digital transformation initiatives with agility.

What distinguishes the Power E1150 is IBM's full-stack approach—from the Power processor and system architecture to firmware, OS, and cloud integration. This cohesive design is intended to support outcomes across three key areas:

Business Continuity: A resilient platform for mission-critical workloads, with features that support risk mitigation and compliance across deployment models.

Productivity & Efficiency: With diverse tools and automation, it helps reduce complexity, improve uptime, and streamline operations to potentially lowering costs.

Scalable Growth for the AI Era: Infrastructure designed to support accelerated deployment of AI and next-generation applications securely, flexibly, and consistently.

<1 minute guaranteed

ransomware
threat detection with
IBM Power Cyber Vault[2]

Industry Shifts and Strategic IT Needs

Enterprise IT is shifting from a cost center to a strategic enabler. Today's leaders seek infrastructure that:

- Supports reliable uptime for essential operations
- Reduces manual workload through automation
- Brings AI and analytics closer to the data
- Enables hybrid cloud deployment without extensive replatforming
- Aligns with sustainability and total cost of ownership (TCO) goals

The Power E1150 is engineered with these priorities in mind. With 30-core sockets, high-speed DDR5 memory, and modular I/O and storage, it offers a foundation designed to scale compute resources to meet growing demands in analytics, ERP, and batch processing.

Business Continuity

As organizations scale, maintaining performance and uptime becomes increasingly important. The Power E1150, built on Power11 processors, is designed to support continuous operations and long-term growth.

Zero Planned Downtime for System Maintenance[1]: IBM Power11-based servers enable updates and maintenance without taking workloads offline, supporting uninterrupted service and operational continuity.

Cyber Resilience: IBM Power Cyber Vault available on Power E1150, includes capabilities for rapid ransomware detection and automated recovery, helping minimize disruption and financial impact.

Quantum-Safe Security: Support for advanced cryptographic protections with a Crypto Card intended to help meet evolving compliance needs and robust data security.

Built-In Resilience: Spare core technology is designed to support compute continuity in the event of hardware issues.

Flexible Architecture: DDR5 memory, modular I/O, and consumption-based models support adaptable growth, preventing disruptive overhauls.

28%

better server efficiency with the new Energy Efficiency mode compared to Maximum Performance mode on Power11[3]

2x Performance

per watt versus compared x86 systems[4]

Productivity and Efficiency

The IBM Power E1150 is engineered to maximize productivity and operational efficiency through intelligent automation, streamlined support, and optimized resource management—freeing IT teams to focus on innovation.

Automated System Maintenance: Automates complex maintenance tasks, preventing the need for planned downtime. By orchestrating updates with minimal human intervention, it helps reduce risk, maintain consistency, and save IT staff time spent on planning and execution, making high availability more accessible.

Accelerated Support Resolution: Automated data collection is intended to support faster issue identification and resolution. Supporting IT teams to reallocate time to strategic initiatives.

Intelligent Energy Management: A new programmable energy mode that helps optimize power usage, with potential performance-per-watt improvements over previous architectures, reducing costs and environmental impact.

Cryptographic Inventory: IBM Power E1150, with IBM PowerSC, supports automated cryptographic asset inventory and monitoring, helping identify vulnerabilities and compliance with security policies and regulations.

Optimized Investments: Dynamic memory activation and hardware compatibility are intended to support cost-effective resource management and sustainability goals.

Up to 55%

better core performance compared to Power9[5]

Up to 45%

more capacity with higher core counts in entry and mid-range systems compared to Power10[6]

Scalable and Flexible Growth

The IBM Power E1150 is purpose-built to support dynamic growth, enabling enterprises to scale seamlessly across on-premises and cloud environments while maintaining performance, security, and cost efficiency.

Enterprise AI, Embedded at the Core
With Power11's on-chip acceleration, high parallelism, and large memory capacity, AI can be embedded directly into business-critical applications and workflows. This proximity to data is intended to reduce latency, enhance performance, and minimize security risks, delivering AI insights without the added cost or complexity of GPUs.

Hybrid Cloud Flexibility with IBM Power Virtual Server
Power11 is available in the Cloud from day one. IBM Power Virtual Server enhances the performance and reliability of Power in the cloud. It supports AIX and Linux workloads without requiring refactoring, facilitating hybrid cloud strategies with pay-as-you-go billing, integrated automation, and disaster recovery—perfect for modernizing infrastructure while controlling costs.

Private Cloud with Shared Utility Capacity
IBM Power Private Cloud with Shared Utility Capacity on Power E1150 enables real-time resource sharing and consumption tracking across systems. Clients can mix purchased and pay-per-use capacity, eliminating overprovisioning and simplifying system management. Resources are tracked by the minute, promoting efficient utilization across the server pool.

IBM Power E1150 - Technical Specifications

Processor module offerings	4 Power11 processors 16, 24 or 30 cores
Processor interconnect	32 Gbps
Memory channels per system	64 OMI channels
Memory bandwidth per system (peak)	512 GB/s | 2048 GB/s
DIMMs per system	64 DDIMMs (DDR5)
Memory capacity per system (max)	16 TB (Enterprise-class DDIMMs)
Acceleration ports	6 ports at 25 Gbps (OpenCAPI)
PCIe lanes per system (max)	64 Gen5 + 64 Gen4 lanes
PCIe slots per system	11 (8 PCIe G5/G4 and 3 PCIe Gen4 slots)
Slots for internal storage controller	General purpose
Internal storage	10 NVMe
I/O expansion drawers (max)	4
Service processor	Enterprise BMC (eBMC)
RAS	Processor, memory and I/O VRM redundancy Concurrent maintenance on PCIe adapters, storage and fans
Security	Transparent memory encryption (TME) Quantum safe encryption for secure boot and LPM (Live Partition Migration)

Conclusion

In an era defined by data, AI, and digital transformation, enterprises need infrastructure that is not only powerful and secure but also agile, efficient, and future-ready. The IBM Power E1150 rises to this challenge—delivering high performance, resilience, and scalability for mission-critical workloads.

From uptime maintenance and quantum-safe security to intelligent automation and hybrid cloud flexibility, the Power E1150 empowers organizations to modernize with confidence. Its ability to embed AI at the core, streamline IT operations, and scale seamlessly across environments makes it an ideal platform for businesses looking to lead, not just adapt, in a rapidly evolving digital landscape.

Whether you're optimizing operations, accelerating innovation, or preparing for the next wave of AI-driven growth, the Power E1150 provides the intelligent infrastructure to turn strategy into results—securely, efficiently, and at scale.

Why IBM?

As a global leader in technology and innovation, IBM has consistently delivered cutting-edge solutions that empower businesses to thrive in an ever-evolving digital landscape. With a rich history of pioneering advancements in computing, AI, and cloud technologies, IBM offers unparalleled expertise and a deep understanding of enterprise needs. By choosing the Power E1150, businesses gain access to IBM's world-class support, dedicated services, and a proven track record of delivering high-performance, reliable, and scalable infrastructure solutions. Trust IBM to help you navigate the complexities of modern IT and unlock new opportunities for growth and innovation.

For more information
To learn more about the IBM Power E1150 Server, contact your IBM representative or IBM Business Partner.

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1. Based upon IBM internal testing of system upgrade scenarios; many (i.e. VIOS, hot plug adapters, I/O adapter FW, and concurrent system firmware updates) can be done in-place while some (i.e. non-concurrent system FW and HW maintenance) may require Live Partition Mobility (LPM) support.
2. This guarantee covers only the displaying of an alert in less than one minute. Remediation is in the form of drive replacement up to the cost of the Covered Product. Terms and conditions apply; full details can be found here.
3.Based upon IBM measurements on servers comparing Maximum Performance Mode to Energy Efficient Mode while running compute-, disk-, and memory-based workloads running on Power S1122 with 2x16c/32x32GB DDIMM.
4. Based upon Quantitative Performance Index (QPI) data as of May 15, 2025 from IDC available at https://www.idc.com/about/qpi and utilization. IBM Power E1150 (4x30c Power11 at 3.0-4.1GHz) QPI of 241,000E versus HPE Compute Scale-up Server 3200 (4x60-core Intel cores at 1.9GHz) QPI of 208,898 and utilizations of 75% for E1150 based on IBM Power Performance Utilization Guarantee and 40% for x86.
Energy consumption is based on maximum input power: IBM Power E1050 with maximum power of 5,200 W https://www.redbooks.ibm.com/redpapers/pdfs/redp5684.pdf HPE Compute Scale Up Server 3200 with maximum power of 4,740 W https://www.hpe.com/psnow/doc/a50004268enw.html?jumpid=in_pdp-psnow-qs
5. Based upon IBM internal measurements of a commercial core banking solution running on IBM Power E950 compared to an E1150.
6. Based upon current IBM Power rPerf and CPW estimates for E1150, S1124 and S1122 versus E1050, S1024 and S1022 respectively.