IBM AIX on IBM Power Servers

Accelerating Hybrid Cloud and AI Transformation

Highlights

- Seamless Integration for Critical Workloads
- Advanced Compliance and Security
- Superior Performance with Cost Efficiency
- Strategic Growth and Long-Term ROI

Introduction

In a world where IT leaders are under constant pressure to modernize infrastructure, support AI and data-driven innovation, and adopt hybrid cloud strategies — all while controlling costs — IBM® AIX® (Advanced Interactive eXecutive) on IBM Power® servers provides a trusted, enterprise-grade platform built to meet these demands. AIX enables organizations to run mission-critical workloads with confidence, while seamlessly integrating with modern cloud-native technologies, automation tools, and AI-driven applications.

AIX is IBM's enterprise UNIX® operating system, built to deliver the reliability, scalability, and security enterprises demand on IBM Power servers. Trusted for decades across finance, healthcare, retail, and manufacturing, AIX keeps business operations running without disruption. It achieves this through deep hardware-software optimization, advanced PowerVM® virtualization for resource efficiency, automated security hardening, and support for containerized and AI-driven workloads. Live partition mobility enables near-zero downtime during maintenance, while binary compatibility protects legacy applications as businesses modernize. AIX has long been the trusted platform for mission-critical operations—helping enterprises control risk, optimize operations, and prepare for hybrid cloud and future growth.

AIX for Hybrid Cloud, AI, Security, and Cost-Efficient Enterprise Scalability

In a digital-first world where hybrid cloud, AI, and data-driven operations are essential to stay competitive, IBM AIX on IBM Power provides an enterprise-grade foundation built to scale with your business. AIX brings decades of innovation and stability combined with modern capabilities that directly support today's IT transformation initiatives.

Hybrid Cloud Integration
IBM AIX enables hybrid cloud adoption by seamlessly integrating on-premises systems with public cloud environments. With PowerVM and Live Partition Mobility (LPM), workloads can be moved across infrastructure without downtime. Dynamic Logical Partitioning (DLPAR) allows real-time resource adjustments, while Ansible® automation simplifies consistent deployment and management across hybrid environments. AIX also integrates with IBM Cloud and Red Hat® OpenShift®, supporting cloud-native apps alongside mission-critical workloads like databases and ERP systems.

Performance & Scalability for AI Workloads
IBM AIX delivers the performance and scalability needed for AI and analytics workloads, with dynamic partitioning, advanced workload management, and support for high-speed networking, NVMe storage, flash caching up to 20TB, and memory up to 64TB. With near-zero downtime and high I/O throughput, AIX ensures AI applications run continuously and scale efficiently.

Enterprise-Grade Security
AIX safeguards critical business data through trusted execution, secure boot, encrypted filesystems, and volumes. Security and compliance are maintained with PowerSC, ensuring consistent policy enforcement across environments. Integrates centralized security policy enforcement, protecting data at rest and in transit (via IPsec and OpenSSL/TLS). Additionally, authentication and key management further facilitate secure access to resources.

Cost-Efficient Enterprise Scalability
IBM AIX is built to scale intelligently—maximizing performance while minimizing resource waste. With multi-threading, each processor core can handle multiple threads simultaneously, increasing throughput without requiring more hardware. Dynamic resource allocation and micro-partitioning enable precise control over CPU, memory, and I/O, allowing workloads to scale up or down in real-time without disruption. Through tight integration with IBM PowerVM, AIX supports seamless workload mobility, high-density consolidation, and optimized infrastructure use. Combined with PowerSC, security and compliance scale effortlessly alongside your environment—eliminating overhead as you grow.

Strategic Advantage of IBM AIX on IBM Power

IBM AIX is not just an operating system—it's a strategic platform purpose-built to meet the demands of modern enterprise IT. Whether you're modernizing through the hybrid cloud, unlocking insights through AI, protecting mission-critical data, or scaling rapidly, AIX delivers the capabilities you need with the reliability you expect from IBM.

AIX allows organizations to modernize at their own pace. You can run traditional workloads on-premises while expanding cloud-native services in the public or private cloud—all within a unified, manageable infrastructure. With live migration and automation, teams can optimize workloads across environments, reduce complexity, and maintain uptime during cloud transitions.

AIX grows with your business. Whether you're scaling across cores, memory, or physical servers, AIX supports increasing demands without infrastructure redesign or application refactoring. Combined with near-zero downtime capabilities, it ensures consistent performance and availability as you scale up to meet new business needs.

AI workloads demand speed, consistency, and massive computing. AIX on IBM Power delivers the processing power and memory capacity to train, deploy, and run AI models with speed and efficiency—without compromising reliability. With intelligent resource control, businesses can process more data in less time and bring insights to action faster.

Security in regulated industries. AIX helps organizations protect critical workloads with built-in, hardware-enhanced security—eliminating the need for bolt-on solutions. It simplifies compliance, strengthens cyber resilience, and protects data across on-premises and cloud environments, helping reduce risk and audit complexity.

Reduce IT costs through efficient resource utilization, reduced downtime, and long-term investment protection. AIX consolidates workloads, lowering hardware, power, and licensing expenses. Optimize performance and eliminate costly downtime during maintenance or upgrades. Support legacy applications to run on new systems without redevelopment, saving time and money. With a 10+ year support lifecycle, AIX reduces upgrade frequency and operational disruptions—delivering a stable, cost-efficient platform for running mission-critical workloads at scale.

Backed by IBM's industry-leading enterprise support, including 24/7 assistance, proactive monitoring, and predictive analytics, AIX enables businesses to modernize at their own pace—whether on-prem, in the cloud, or across both. The result: a secure, scalable, and cost-efficient platform that meets the demands of today's hybrid, AI-driven enterprise IT landscape.

Why IBM?
IBM is the trusted advisor for thousands of the world's leading businesses and governments. IBM offers a complete range of server, storage, application, and service offerings that have been created with virtualization at the core of their designs. IBM®'s depth and breadth of expertise in virtualization systems management with Power Systems is virtually outstanding.

IBM also has technical consultants worldwide who have broad experience in deploying IBM AIX in a hybrid environment to optimize IBM Systems. When working with IBM to implement Power, clients can benefit from the extensive intellectual capital that the entire IBM® Global Services team has accumulated, tested, and proven.

For more information
To learn more about AIX on Power, please contact your IBM representative or your IBM Business Partner.

To learn more about the **AIX Software Portfolio**, Oracle workloads, or High-End Servers visit:

- PowerVM®
- PowerVC
- VMRM
- PowerSC
- PowerHA®
- Oracle on Power
- E1080
- E1050

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