IBM AIX
Modernizing your mission critical workloads with AIX on IBM Power Systems

Highlights

• Resiliency: World class high availability, security, performance and scale
• Facilitates cloud deployments for AIX in private or public clouds
• Artificial Intelligence: Utilize AI capabilities for AIX workloads
• Modernize traditional AIX environments with open source toolbox

Secure, scalable and robust open standard based UNIX operating system

In the era of cloud, the the internet of things (IoT) and AI, the demand for elastic computing capabilities, flexible infrastructure, continuous availability and security is essential. As companies navigate these dynamic market conditions and transform their businesses for growth, they need an operating system they can depend on as a reliable foundation with the flexibility and capabilities to adapt and bridge to new technologies.

One of Power Systems’ advantages is the ability to run various workloads across AIX, IBM i and Linux on the same Power System which is key for consolidation purposes. But beyond that it provides an important bridge to a new ecosystem of emerging enterprise applications like SAP HANA, containerized Cloud native solutions like IBM Cloud Private or Redhat Openshift and breakthrough AI applications – all running side by side with the mission critical applications required for core business.
Power Systems with AIX is the foundation for many core business applications and database environments. IBM Power Systems remains committed to delivering an AIX release roadmap of further improvements in terms of its core capabilities around performance, scale and resiliency, but also innovation and modernization.

**AIX 7.2**

AIX 7.2 is the most current AIX release in the market and builds atop a strong history by providing new functions/capabilities that further improve performance, scale, availability, and security, all while maintaining application binary compatibility to protect existing IT investments in AIX. AIX 7.2, coupled with IBM POWER9® processor-based Power Systems™, delivers an optimized and even more resilient computing platform designed to adapt to changing business demands, including new cloud use cases and improved economics.

AIX version 7.2 is binary compatible with previous versions of the AIX OS, including AIX 6™, AIX 5L™ and even earlier versions of AIX. In other words, applications that ran on earlier versions of AIX will continue to run on AIX 7.2—which makes sure clients’ investments are protected.

**Live Update**

AIX offers some unique features such as AIX Live Kernel Update, which was introduced with AIX 7.2 (TL0) in December 2015 to allow for general application and activation of any interim fix without a required reboot. Subsequent AIX 7.2 TL updates added support to also do live updates of the AIX kernel with service packs and new TLs, again without the requirement to reboot in order to activate the changes. Enhancements continue with AIX live update to support new use cases so that clients can broadly apply and use them. This includes recent enhancements to support live update in PowerVC managed landscapes and to automate the use of Power Enterprise Pools for CPU and memory resource management. Recently, we enabled clients to leverage Live Partition Mobility (LPM) to do a live update across frames or bring down the overall resources needed in case LPM is not an option.

**Open Source**

AIX Toolbox for Linux Applications contains a collection of open source software built for AIX IBM Systems. These tools provide the basis of the development environment of choice for many Linux application developers. All the tools are packaged using the easy to install RPM format. There is a strong affinity between Linux and AIX for applications. The AIX operating system (OS) has a long history of standards compliance and it is generally straightforward to rebuild Linux applications for AIX. The AIX Toolbox for Linux Applications demonstrates the strong affinity between Linux and AIX operating systems.
Modernizing traditional AIX environments allows clients to further simplify their data centers and bridge to new workloads. With the ongoing shift to hybrid multicloud, enterprises are quickly embracing containers. Kubernetes® has become the primary enterprise container platform—the AIX Toolbox contains a package for an AIX node in a Kubernetes cluster. We will continue to evaluate our client needs in this space and enhance AIX in this area based on their feedback.

**Artificial Intelligence**

AIX workloads are a natural source for AI as these systems host a tremendous amount of high-quality data on customer behavior and transactional information that could be further leveraged for AI. When clients combine historical data with emerging technologies such as machine and deep learning, all on the same platform, leveraging all kinds of sources and trained systems appropriately, they will get new insights. This is core to our mission as an IT provider for enterprise businesses and true investment protection.

**Hybrid Cloud Integration**

AIX is helping over 3,000 clients transform their IT infrastructure into a private, on-premises cloud with PowerVC. Just this year, we announced new hybrid cloud functionality, including the ability to easily import and export AIX VMs between clouds, as well as new Software Defined Infrastructure capabilities allowing you to spin up SAN-less clouds for DevOps environments.

AIX is now available in the IBM Cloud through the IBM Power Systems Virtual Server on IBM Cloud. This new offering provides even more flexibility for clients looking to extend AIX workloads to the public cloud or to modernize with Cloud native services.

**Security Enhancements**

The IBM Power Systems security portfolio was improved as well with significant enhancements to PowerSC with the primary focus being AIX providing new malware intrusion detection and alerting capabilities, integration with IBM Cloud PowerVC Manager, reporting capabilities to support security audits and more. Additionally, we released PowerSC Multi-Factor Authentication (PowerSC MFA) that provides the highest level of capability around the emerging requirement for two or more authentication factors for system administrators to meet mandatory regulations.

**Disaster and Recovery Protections**

Data center and service availability are some of the most important topics for IT infrastructure. Natural disasters not only affect normal operations, but human errors and terrorist acts may affect business continuity and even with fully redundant infrastructure, services are vulnerable to such disasters. Replication of data between sites is a good way to minimize business disruption since backup restores can take too long to meet business requirements, or
equipment may be damaged depending on disaster extent and not available for restoring data. High availability software is intended to minimize downtime of services by automating recovery actions when failures are detected on the various elements of the infrastructure.

PowerHA for AIX is the premier HA/DR solution with years of continuous enhancements it is the solution of choice for mission-critical operations where all outage types both planned and unplanned are covered. PowerHA minimizes planned and unplanned outage events, simplifies HA administration, provides multi-site solutions and minimizes operating expenses.
AIX Release Roadmap

AIX support phases

AIX Support Phase
Why IBM?

For over a century, IBM has pioneered technologies and provided services that help companies manage and mine their valuable business data. 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.

Next steps

→ Learn more and get started on your upgrade journey to POWER9 and IBM AIX 7.2
→ Bridge to and extend your IBM AIX workloads to the cloud

For more information

To learn more about IBM AIX, please contact your IBM representative or IBM Business Partner, or visit the following website: https://www.ibm.com/it-infrastructure/power/os/aix
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