SAP on IBM Z: Solution Overview

A winning combination: IBM Z and SAP Business Solutions

IBM® technology, led by IBM Z®, provides a premier infrastructure for clients who have deployed or are considering SAP® solutions to drive better business outcomes. SAP on Z has the most robust, highly available hardware with near zero downtime, advanced virtualization, systems management, and automation tools to drive down costs. Db2 represents the most sophisticated database capable of handling large workloads and providing real-time insight.

The IBM Z portfolio, combined with offerings from SAP, can add significant value to your business in this competitive environment, help you better utilize your IT assets, and improve the return on these investments. Implemented on IBM Z, the SAP on DB2® for z/OS ® solution uses IBM Db2 for z/OS as SAP database, and allows to run the SAP NetWeaver Application Server from a diverse network of clients. Client operating systems include Linux on IBM Z, AIX®, Linux on IBM Power Systems, Linux on x86 servers and Windows.

For many enterprises, SAP business software plays a central role in almost all functional areas, from business planning to customer relationship management, and from logistics to sales fulfillment. It supports complex business processes and extends services to customers, partners, and suppliers.

With operations in multiple time zones, and web-based customers and suppliers able to access your systems 24 hours a day, it is vital to run SAP solutions on a platform that can adapt dynamically to meet changing requirements. Business continuity and resilience are crucial. The pressure to continually drive down operational costs means that enterprises must achieve these goals for IT without incurring high total cost of ownership.

The combination of SAP solutions and IBM Z servers uniquely addresses these requirements, providing an excellent availability, security and flexibility for business-critical operations. By selecting IBM Z for your SAP software environment, you can cut complexity and automate systems management, while enabling your business to respond faster and more cost-effectively to changing levels of demand.

IBM Z as workload optimized system enables a mixed set of workloads to be deployed on best fit technologies, and meets the need of today's hybrid SAP landscapes.

SAP on IBM Z Solution: Architecture
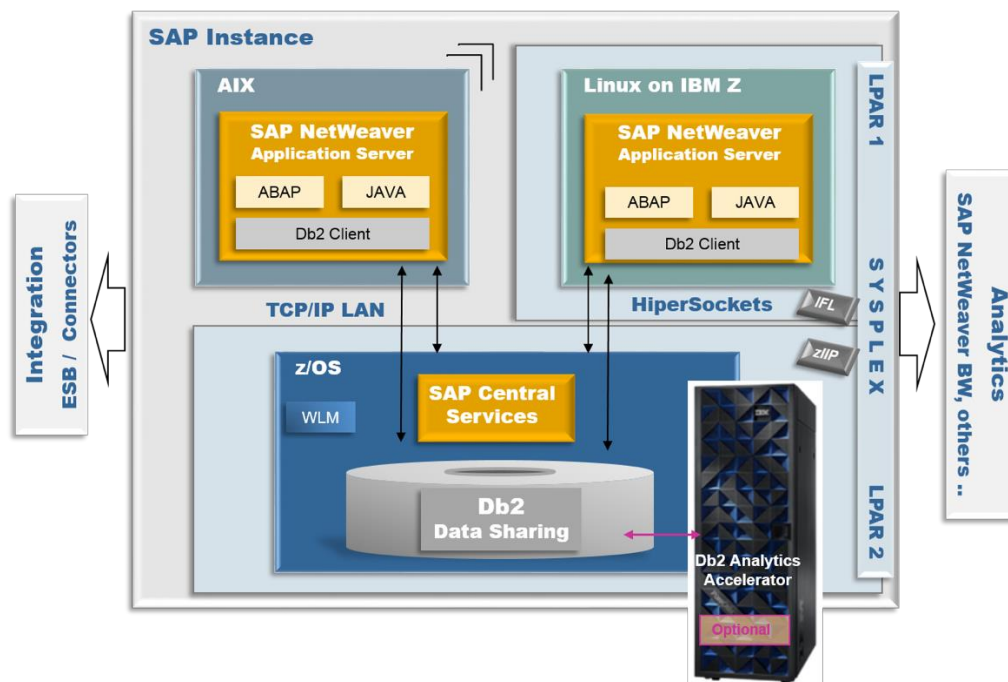
The graphic depicts a typical setup for deploying an SAP system with Db2 for z/OS as database backend on Z. As an example, it shows the options of using either AIX or Linux on Z for the SAP application server platform. In all cases the Db2 client (Db2 Connect™) provides the connection between the SAP NetWeaver Application Server and the Db2 database backend.
The IBM Db2 Analytics Accelerator is a strong option to expedite SAP analytics solutions, as it is deeply integrated with the SAP NetWeaver Business Intelligence (SAP BI) solution and with Db2.

SAP on IBM Z solution: Key values

Major requirements of a company's IT infrastructure typically are business continuity, security, automated operations and optimal support for integration tasks. Proper protection of customer and other sensitive data is both a business and a legal requirement. As large companies usually run different applications, they require seamless integration. In addition, there are operational tasks that are performed at the infrastructure level when crucial SAP solutions are run. These should be automated as much as possible.

Business Continuity

Near zero downtime and disaster recovery for heterogeneous distributed applications help achieve ultra-high availability for SAP databases and applications, delivering always-on data and services to employees, clients and suppliers. Other requirements are to respond reliably to unpredictable spikes in demand, and to perform maintenance and upgrades of hardware or software without service disruption.

To implement Business Continuity in accordance with the core requirements, all infrastructure components need to fit together seamlessly. Based on IBM Z hardware and an operating system providing industry-leading quality, subsystems like storage, database, and systems management components are highly integrated and complete the entire infrastructure solution.

Security

Protecting confidential information and business critical data is not only a business requirement, it is a legal requirement. Access to information must be restricted to authorized persons. Access controls are to be enforced, and all successful and unsuccessful authentication attempts are logged for auditing purposes. An additional method of preventing information disclosure is data encryption. A secure and reliable IT platform is of fundamental importance for the business process platform.

Integration

Application integration is a key element of customer's IT strategy for their digital transformation today. Large companies typically run a variety of applications on distributed systems around the globe. Their services and data sources are the basis for the company's integrated business processes, whether these live in the central SAP system, or somewhere outside in the hybrid compute environment.
The SAP solution provides a variety of options to build integrated business processes using basic RFC (Remote Function Call) interfaces, Web-based services, connector frameworks (SAP Business / SAP Java Connectors), and open RESTful interfaces and programming models.
The SAP Z Connector Toolkit for z/OS specifically enables CICS®, IMS™ or native z/OS applications to invoke SAP business transactions for a robust integration will classical mainframe applications.

... and more important values:

Ultimate scalability allows handling enterprise databases and transaction volumes with ease. SAP environments can be harmonized by **consolidating** multiple applications and databases to a single IBM Z server, for **easier management**, better automation, and the possibility of improved throughput and lower total cost of ownership (**TCO**). **Db2 is optimized for SAP**, and can handle seamlessly large volumes of data. The technological resources can support **globalization** and international business activities, for example, **around-the-clock availability**, support for different languages and time zones, and integration of business applications for partners and customers worldwide. The latest releases of the SAP Business Suite and industry solutions have all been shipped in the **Unicode** industry standard, which represents the characters of virtually all writing systems in the world. The IT infrastructure can ensure **high performance** along with **high flexibility** to handle real workload with peaks at different times.

IBM Z is an excellent choice for a fully integrated infrastructure that is secure, reliable, scalable, and virtualized.

Related information on IBM Z hardware and operating systems

What value brings IBM z14 for running SAP applications? Read the Solution Brief "Trusted digital experience with SAP on IBM z14".

What additional benefit comes with the new IBM z15? Have al look at
https://newsroom.ibm.com/2019-09-12-IBM-Unveils-z15-With-Industry-First-Data-Privacy-Capabilities

More information

Learn more about IBM Db2 for z/OS; the leading enterprise data-server technology powering business-critical transactions and analytics: https://www.ibm.com/analytics/db2/zos

Learn more about consolidating SAP infrastructure on IBM z Systems, and follow links to customer case studies and videos, as well as reports and descriptions. Find information how IBM and SAP deliver enterprise solutions that can help you innovate, adapt and compete.

You are invited to use the "SAP on IBM Z" group at LinkedIn for conversations, questions, news, and feedback.

At the SAP on Db2 for z/OS Community you can find "SAP Information Sources" and "IBM Information Sources" with summaries of related documentation and information.