Data Sheet

SUSE Linux Enterprise Server for SAP Applications on IBM Power Systems

Deploy, configure, and protect the full SAP system stack

SUSE Linux Enterprise Server for SAP Applications is an operating environment uniquely designed for SAP infrastructures. Key features enable faster service deployment, reduced downtime, increased security, and the ability to safeguard critical business systems by avoiding system errors. It is the leading Linux for more than 3,500 SAP HANA on IBM Power Systems customers and is endorsed by SAP.

SUSE | SAP Endorsed App | Available on SAP Store

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Product Overview

Migrations to SAP HANA and SAP S/4HANA to improve business operations presents new challenges to IT organizations responsible for implementing these services. Requirements for faster time to market and reduced capital expenses are driving these migrations to the cloud. High availability, system security, and maintenance of increasingly complex environments continue to be important for mission-critical SAP services.

SUSE Linux Enterprise Server for SAP Applications is the single Linux platform for SAP NetWeaver and SAP S/4HANA applications and databases. It was the first Linux distribution to support SAP HANA on IBM Power servers and on major hyperscaler as well as regional cloud service provider platforms. It includes a rich set of features that enable administrators at all skill levels to deploy, configure, and protect the full SAP system stack quickly, reliably, and confidently.

As an SAP Endorsed App, it is one of a select few offerings in this new category of SAP ecosystem partner solutions. SAP Endorsed Apps are proven solutions to complement and extend SAP products, and deliver value quickly, easily and with support from SAP.

Key Benefits

Deploy SAP services faster

SUSE Linux Enterprise Server for SAP Applications delivers automation to install the complete SAP system stack including the Linux OS, SAP workloads, high availability clustering and monitoring in hours instead of days or weeks. Automatic configuration of the OS and high availability configuration is based on best practices for specific SAP applications, cloud environments, and IBM Power servers. Pre-deployment checks of the high availability clusters reduce the risk of delays and unplanned downtime in the roll out of new SAP services due to configuration errors.

Reduce downtime and increase security

Reduce the disruption of system outages with a broad set of configurations for the high availability stack for SAP applications and databases, based on best practices delivering easier set-up with fewer errors. Administrators can apply security patches without planning system downtime for up to one year with live Linux kernel patching. SUSE Linux

Enterprise Server for SAP Applications is unmatched in providing added security for SAP workloads that meet government and industry regulatory requirements, as well as specific protections for SAP HANA systems and remote storage devices.

Safeguard SAP systems to prevent errors

Avoid system errors with built-in monitoring of the metrics across the full SAP stack, enabling proactive identification of potential errors before they impact business operations. Reduce time to troubleshoot high availability issues with the ability to visualize and validate cluster decisions and replay transitions. Additional features of SUSE Linux Enterprise Server for SAP Applications provide wizards and automation tools to reduce errors and speed up troubleshooting.

Key Features

Deployment

Deploy SAP services faster with automation and error-free configurations of the complete SAP stack. SUSE Linux Enterprise Server for SAP Applications includes two options for automating SAP workload deployment of the full stack including the Linux operating system, SAP applications, SAP HANA, and high availability. The saptune3 package is used for both approaches and includes best practices configurations for the OS and high availability clusters, tuned for specific SAP applications, and IBM Power servers.

> "After testing, we concluded that it would be easier to deploy and manage SUSE Enterprise Linux Server for SAP Applications than the alternative from Red Hat. The SUSE OS provides everything we need in a single license—including high availability and integrated support from SUSE and SAP."
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> **Ramazan Yildrim**
> IT Manager & SAP Basis Manager
> Boydak Holding

An Installation Wizard automates on-premises server implementation to meet SAP Notes-based prerequisites for optimal performance and best practices set-ups of a variety of high availability cluster scenarios. SUSE supports SAP application deployments on all IBM POWER (ppc64le) processor-based servers with IBM PowerVM™ virtualization, including the new IBM POWER10 systems. This includes support for SAP HANA Tailored Datacenter Integration (TDI) server deployments and multiple database containers.

For consistent, repeatable results, Terraform-based configuration scripts are included for Salt deployment to quickly set up a full SAP S/4HANA software stack on premises and in the cloud. This includes the OS, applications, SAP HANA databases, and monitoring, for single node and clustered configurations.

Supported cloud environments include major hyperscalers such as IBM Cloud, regional Cloud Service Providers, and IBM PowerVC.

High Availability

SUSE Linux Enterprise Server for SAP Applications reduces the disruption of system outages with built-in high availability that supports a wide variety of clustering scenarios. This includes support for Relax and Recover (ReaR) which is commonly used for AIX environments.

An integrated clustering solution, SUSE Linux Enterprise High Availability Extension, enables compliance with business continuity requirements. Reduce downtime with the flexibility to configure and deploy a range of high-availability/disaster recovery scenarios for SAP HANA and applications. The easy-to-use interface of the high availability extension includes the ability to configure automated Systems Replication with the server system fail-over for scale-up and scale-out deployments. Administrators can test SAP HANA, SAP S/4HANA, and NetWeaver high availability configurations prior to deployment, reducing errors and problem resolution time.

SUSE Linux Enterprise Server for SAP Applications includes SAP HANA Systems Replication agents, so recovery time of SAP HANA in-memory data is reduced from hours to minutes for large data sets. Operations pre-/post-scripts gives system administrators the flexibility to adapt SAP HANA system failover and recovery capabilities to their own high availability scenarios and tools.

SAP HANA Persistent Memory

SUSE Linux Enterprise Server for SAP Applications helps to reduce in-memory data load times after system reboots with support for IBM PowerVM-based Virtual PMEM technology made possible by close collaboration between IBM, SAP, and SUSE. Loading large SAP HANA databases commonly found on IBM enterprise servers such as the Power E1080 from storage into traditional RAM can take hours.

A 4 petabyte virtual address space provides the infrastructure for future application growth of SAP systems. Support for SAP HANA databases that are greater than 32 TB is possible with IBM PowerVM, reducing the frequency of system reboots after memory fragmentation.

Live Linux Kernel Patching

SUSE Linux Enterprise Live Patching eliminate downtime for most Linux kernel security vulnerability and critical stability problems with live kernel patching. An entitlement to SUSE Linux Enterprise Live Patching is included with cloud pay-as-you-go (PAYG) and on-premises subscriptions of SUSE Linux Enterprise Server for SAP Applications. Based on SUSE-developed open source kGraft technology, administrators have the flexibility to choose which patches to install with support for multiple patches without a system reboot for up to one year from the first patch.

Enhanced Security

Meet government and industry regulatory security requirements with SUSE Linux Enterprise Server as the foundation for SLES for SAP Applications. Common Criteria EAL4+ and FIPS 140-2 certifications validate SUSE's software supply chain security.

Secure SAP HANA systems with a built-in firewall that configures the additional network zones that are required to fully protect the in-memory system from external attacks. The firewall can be configured automatically or with a guided wizard for faster set up.

Enhanced encryption management using a built-in key server protects data on remote storage volumes. Store encryption keys of the SAP filesystem or SAP HANA data storage volumes on a landscape of hundreds or thousands of servers. Each one communicates with the key server to fetch a key or certificate to unlock the volumes automatically, keeping data secure and reducing recovery time after a system restart. The Key Management Interoperability Protocol (KMIP) supports 3rd-party key servers.

Monitoring

Prometheus exporters in SUSE Linux Enterprise Server for SAP Applications enable advanced monitoring of servers, cloud instances, high availability clusters, and SAP application-specific operational data. these metrics can be graphically display with Grafana built into SUSE Manager (entitlement included with SUSE Linux Enterprise Server for SAP Applications) or other management tools.

The Trento web-based console planned for April 2022 will be included with SUSE Linux Enterprise Server for SAP Applications subscriptions. Trento automated discovery enables full observability of systems in SAP domain language including on-premises servers, cloud instances, SAP HANA databases, and SAP S/4HANA and NetWeaver applications, and high availability clusters. Compliance-as-code checks identify and display non-critical and critical issues with high availability. Administrators can view details of configuration problems with references to relevant SAP Notes and/or product documentation, then choose to execute recommended command-line fixes, when available, with a simple copy and paste.

Workload Memory Protection

Workload Memory Protection ensures that data in memory is accessible when the SAP application is ready to retrieve it. The Linux kernel is designed to speed up performance of the file system by caching data in memory that is infrequently accessed. This can slow the operation of SAP applications that require large amounts of memory. Workload Memory Protection ensures that SAP transactional and analytics data remains in memory, shielding it from Linux kernel memory management.

System Administration tooling

A wizard handles the complexity of disconnecting and re-connecting

a clustered configuration while the administrator upgrades the SAP HANA software. This not only saves time but also can eliminate errors that lead to longer planned downtime.

Tooling to visualize and validate cluster decisions and replay transitions aids in troubleshooting SAP HANA System Replication issues.

Support for the Microsoft Remote Desktop Protocol environment provides a familiar interface for SAP Basis Administrators who need to transition SAP landscapes on Windows Server to SUSE Linux on IBM Power servers.

Enhanced Active Directory integration supports both SUSE Linux and Microsoft Windows Server user IDs and passwords, eliminating the need to rebuild or duplicate accounts. There is also a guide to executing common Windows commands in Linux in the documentation.

Priority Support

SUSE Linux Enterprise Server for SAP Applications includes integrated Priority Support and maintenance through SAP Solution Manager from both SAP and SUSE. This support subscription provides unlimited 24x7 seamless support from both SAP, IBM, and SUSE. SAP customers can initiate a support request using the regular SAP escalation channels including telephone, internet, CSN and the SAP Solution Manager. For known Linux OS problems, customers also have direct access to SUSE Level 3 Support.

> "IBM i was a tough act to follow when it comes to stability and low maintenance. SLES for SAP Applications is optimized for SAP software to provide the best performance while also being thoroughly tested by SUSE and SAP. SLES simply runs without any issues and keeps our business going from strength to strength."
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> **Matthias Assmann**
> Chief Information Officer
> ElectronicPartner Handel SE

System Requirements

System requirements for SUSE Linux Enterprise Server for SAP Applications are listed below. For details on installation requirements and best practices visit https://documentation.suse.com/en-us/sles-sap/15-SP3/.

Minimum Linux server system requirements for installation

- OS installation: 1024 MB total RAM or 512 MB RAM per CPU core (whichever is higher), 41 GB HDD minimum

- SAP application installation: 200 GB free disk space minimum, RAM varies by application
- SAP HANA installation: 24 GB RAM minimum

Supported processor platforms

- ppc64le (IBM Power)
- x86_64 (Intel Xeon™)

Supported hyperscaler platforms

- Alibaba Cloud
- Amazon Web Services (AWS)
- Google Cloud
- IBM Cloud
- Microsoft Azure

All regional cloud service provider platforms that are supported by SAP are also supported by SUSE.

For detailed product specifications and system requirements, visit:

www.suse.com/products/sles-for-sap/.

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